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U. S. DEPARTMENT OF AGRICULTURE.
BUREAU OF STATISTICS—BULLETIN 89.
VICTOR H. OLMSTED, Chief of Bureau.

MARKETING GRAIN AND LIVE STOCK IN THE PACIFIC COAST REGION.

BY

FRANK ANDREWS,

STATISTICAL SCIENTIST AND ASSISTANT CHIEF OF DIVISION OF PRODUCTION AND DISTRIBUTION.

WASHINGTON:
GOVERNMENT PRINTING OFFICE.
1911.

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1911.

LETTER OF TRANSMITTAL.

United States Department of Agriculture,
Bureau of Statistics,
Washington, D. C., May 19, 1911.

Sir: I have the honor to transmit herewith a report on the marketing of grain and live stock in the Pacific coast region, prepared by Frank Andrews, statistical scientist and assistant chief of the division of production and distribution. Much of the information was secured through personal inquiry at numerous places in California, Oregon, and Washington, and through correspondence.

The chief object of this inquiry was to collect data relating to changes in the costs and methods of marketing during the past 40 years, and to show changes in trade movements within that time. The results of this investigation are not given in any other report made by this department or any other Government department.

It is respectfully recommended that this report be published as Bulletin 89 of this bureau.

Very respectfully,

Nat C. Murray,
Acting Chief of Bureau.

Hon. James Wilson,
Secretary of Agriculture.

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MARKETING GRAIN AND LIVE STOCK IN THE PACIFIC COAST REGION.

INTRODUCTION.

The wheat grown west of the Rocky Mountains enters into a trade distinct from that of the rest of the United States. The farmer of Oregon, Washington, or Idaho looks to Liverpool and other European ports, not to Chicago or Minneapolis, for his market. Prices in England, and not in the large grain centers east of the Rocky Mountains, interest him. His product is carried, it is true, some 18,000 miles before it reaches the English miller, but this route is cheaper than the 2,000-mile haul across the mountains to milling centers of the Mississippi Valley. Local mills grind considerable quantities and offer an alternative market to the farmer, but the surplus for export is regularly carried by sea to Europe. Hence the production and marketing of grain on the Pacific coast constitute a distinct chapter in the economic history of the United States. The live-stock industry of that region also is to a large degree separated from the industry east of the Rocky Mountains. The separation, however, is not so marked in the case of live stock as of grain, for hogs from as far east as Nebraska are killed in the packing houses of the Pacific coast, while cattle and sheep from the interior of Oregon are driven to Baker City, Oregon, and other shipping points of the same State, thence to be shipped, some east and some west.

In discussing the wheat and live-stock industry of the Pacific coast region Idaho should be included, since the western and parts of the southern portion of that State are in the same river valleys, and hence in the same agricultural region, as the eastern parts of Washington and Oregon.

DOMESTIC TRADE.

GRAIN SURPLUS.

The grain surplus of the Pacific coast region is, roughly, the quantity shipped out of the county where grown. Of the four States which constitute this region, Washington leads in the shipments of wheat out of county where grown, California is second, Oregon third, and Idaho fourth. Shipments from producing counties in California, unlike corresponding movements in the three more northern States, are largely, if not altogether, intended for milling within the State.

The oats and corn marketed in the four States, as shown in Table 1, are relatively unimportant when compared with wheat. No similar data are available for barley marketings.

TABLE 1.—*Quantity of wheat, oats, and corn marketed in California, Oregon, Washington, and Idaho and in the entire United States, 1896–1909.*[a]

WHEAT.

Year of harvest.	California.	Oregon.	Washington.	Idaho.	Total, four States.		Total United States.
					Quantity.	Per cent of United States.	
	Bushels.	*Bushels.*	*Bushels.*	*Bushels.*	*Bushels.*	*Per cent.*	*Bushels.*
1896	30,666,093	6,558,170	5,850,734	1,442,467	44,517,464	20.12	221,226,077
1897	21,056,113	9,985,267	13,483,514	1,353,836	45,878,730	17.05	269,125,950
1898	5,989,957	18,037,030	18,527,904	3,147,678	45,702,569	11.46	398,882,132
1899	23,958,175	13,608,712	16,934,107	1,926,458	56,427,452	18.50	305,019,752
1900	19,980,540	7,937,026	20,077,329	1,769,639	49,764,534	17.69	281,372,432
1901	25,015,040	12,010,645	28,995,933	3,619,905	69,641,523	18.68	372,717,482
1902	15,214,457	9,152,351	16,097,087	3,733,607	44,197,502	11.37	388,553,527
1903	14,857,596	6,468,190	14,590,032	2,974,232	38,890,050	10.52	369,582,320
1904	10,310,170	8,992,124	25,069,670	4,304,618	48,676,582	16.08	302,771,219
1905	10,876,048	7,226,596	25,037,944	6,721,996	49,862,584	12.34	404,092,217
1906	14,517,177	7,818,578	19,558,701	4,609,713	46,504,169	10.88	427,252,826
1907	12,312,000	8,854,000	26,985,000	5,356,000	53,507,000	14.56	367,607,000
1908	7,826,000	9,392,000	20,915,000	7,410,000	45,543,000	11.58	393,435,000
1909	6,122,000	9,335,000	26,835,000	10,126,000	52,418,000	11.98	437,417,000
Average:							
1896–1900	20,330,176	11,225,241	14,974,718	1,928,016	48,458,151	16.42	295,125,269
1901–1905	15,254,662	8,769,981	21,958,133	4,270,872	50,253,648	13.67	367,543,353
1906–1909	10,194,294	8,849,894	23,573,425	6,875,428	49,493,041	12.18	406,427,956

OATS.

1896	401,978	1,156,296	1,448,531	468,780	3,475,585	1.82	190,642,860
1897	257,279	2,187,195	1,376,110	460,537	4,281,121	2.10	204,147,306
1898	194,330	1,684,209	1,340,701	.....	3,219,240	1.66	193,527,426
1899	184,379	1,637,971	1,121,827	384,989	3,329,166	1.49	223,014,086
1900	265,999	722,209	1,206,490	391,455	2,586,153	1.06	242,850,477
1901	977,469	2,870,814	2,110,183	1,115,300	7,073,766	4.93	143,398,317
1902	1,904,976	2,346,711	1,423,015	1,262,734	6,937,436	2.68	258,438,248
1903	1,611,950	3,693,857	2,583,383	1,356,768	9,245,958	4.13	223,959,467
1904	1,709,269	2,018,270	2,814,735	1,640,779	8,183,053	3.12	261,989,446
1905	1,275,788	1,562,250	3,043,990	1,120,411	7,002,439	2.53	277,132,976
1906	1,495,326	3,175,098	2,985,414	1,580,423	9,236,261	3.47	266,182,194
1907	1,959,000	3,906,000	4,745,000	2,739,000	13,349,000	6.33	210,923,000
1908	3,350,000	3,808,000	2,763,000	2,906,000	12,827,000	5.25	244,444,000
1909	2,700,000	4,681,000	4,256,000	3,894,000	15,531,000	4.71	329,696,000
Average:							
1896–1900	260,793	1,477,576	1,298,732	341,152	3,378,253	1.60	210,836,431
1901–1905	1,495,890	2,498,380	2,395,061	1,299,198	7,688,529	3.30	232,983,691
1906–1909	2,376,082	3,892,524	3,687,354	2,779,856	12,735,816	4.85	262,811,298

CORN.

1896	396,463	11,906	7,636	.....	416,005	0.07	623,255,914
1897	382,536	13,258	2,332	.....	398,126	.10	411,617,337
1898	142,085	9,832	.....	.....	151,917	.04	396,005,302
1899	76,849	17,845	.....	.....	94,694	.03	348,097,934
1900	94,638	6,343	.....	.....	100,981	.02	478,417,202
1901	37,016	3,476	1,718	.....	42,210	.03	153,213,393
1902	220,698	15,954	23,032	.....	259,684	.05	557,295,588
1903	319,889	8,971	2,290	.....	331,150	.08	419,877,256
1904	280,128	4,957	4,849	3,133	293,067	.05	551,634,734
1905	199,204	4,038	13,063	.....	216,305	.03	681,538,811
1906	259,326	4,991	8,652	.....	272,969	.04	679,543,770
1907	275,000	4,000	10,000	2,000	291,000	.06	467,675,000
1908	240,000	13,000	10,000	7,000	270,000	.05	568,129,000
1909	522,000	16,000	17,000	6,000	561,000	.09	640,405,000
Average:							
1896–1900	218,514	11,837	1,994	.....	232,345	.05	451,478,738
1901–1905	211,387	7,479	8,990	627	228,483	.05	472,711,956
1906–1909	324,082	9,498	11,413	3,750	348,743	.06	588,938,192

[a] Compiled from reports of the Bureau of Statistics, United States Department of Agriculture. The quantity "shipped out of county where grown," as given in the bureau's reports, is taken here as the quantity marketed.

STORES OF WHEAT AT THREE CALIFORNIA CENTERS.

Of the three places mentioned in Table 2, Stockton is an important milling center, while Port Costa, whose warehouses are readily accessible to ocean vessels, exports a considerable part of the grain shipped from California to foreign countries. The warehouses at Port Costa, although some 30 miles from San Francisco, may be regarded as part of the export facilities of that city; the list of warehouses classed as "regular" by the San Francisco Merchants' Exchange includes establishments at Port Costa.

The average amount of wheat in the warehouses of the places named (Table 2) declined greatly during the 19 years ending with 1909, the average on the first of each month in 1891–1895 being 6,000,000 bushels, and in 1906–1909 only 900,000 bushels.

The development of California's agriculture along more profitable lines than that of grain production may be taken as one cause of the decline in the amount of grain stored at these trade centers.

TABLE 2.—*Mean stocks of wheat at Stockton, Port Costa, and San Francisco on the first day of the month, 1891–1909.*[a]

Calendar year.	Average for 12 months.						
	Stockton.		Port Costa.		San Francisco.		Total bushels.
	Bushels.	Per cent of total.	Bushels.	Per cent of total.	Bushels.	Per cent of total.	
1891	1,672,600	35.7	[b] 3,012,067	64.3	(c)	(c)	4,684,667
1892	1,444,567	40.2	[b] 2,152,533	59.8	(c)	(c)	3,597,100
1893	1,541,733	32.0	[b] 3,271,933	68.0	(c)	(c)	4,813,666
1894	1,318,800	15.2	[b] 7,330,133	84.8	(c)	(c)	8,648,933
1895	1,683,467	20.2	6,336,833	76.2	302,533	3.6	8,322,833
1896	1,422,600	42.7	1,827,900	54.8	84,700	2.5	3,335,200
1897	1,124,733	45.9	1,230,533	50.3	93,233	3.8	2,448,499
1898	877,500	36.9	1,356,133	57.0	145,733	6.1	2,379,366
1899	1,244,667	29.1	2,892,633	67.6	138,967	3.3	4,276,267
1900	2,028,433	34.9	3,748,733	64.4	41,200	0.7	5,818,366
1901	1,273,933	33.5	2,507,600	65.8	28,133	0.7	3,809,666
1902	1,053,467	42.5	1,384,433	55.9	40,567	1.6	2,478,467
1903	629,667	43.4	755,600	52.1	64,400	4.5	1,449,667
1904	759,633	57.7	465,400	35.3	92,333	7.0	1,317,366
1905	583,600	59.2	299,133	30.4	102,400	10.4	985,133
1906 [d]	571,233	36.2	899,267	57.0	106,267	6.8	1,576,767
1907	405,267	37.5	606,900	56.2	67,667	6.3	1,079,834
1908	203,967	37.5	283,600	52.2	55,733	10.3	543,300
1909	226,200	48.9	199,533	43.2	36,367	7.9	462,100
Average:							
1891–1895	1,532,233	25.5	[b] 4,481,206	74.5	(c)	(c)	6,013,439
1896–1900	1,339,587	36.7	2,211,186	60.5	100,767	2.8	3,651,540
1901–1905	860,060	42.8	1,082,433	53.9	65,567	3.3	2,008,060
1906–1909	351,667	38.4	497,325	54.3	66,508	7.3	915,500

[a] Compiled from annual reports of the San Francisco Merchants' Exchange.
[b] Including San Francisco.
[c] Included in Port Costa.
[d] Eleven months only.

NORTHERN WHEAT FOR CALIFORNIA MILLS.

With the growth of population and the diversification of industry, California's wheat crops have fallen farther and farther behind home consumption. Many grain ranches which formerly sent

large quantities of wheat to market have been divided into small fruit and vegetable farms. Hence the California wheat crop is supplemented each year from the surplus of Oregon, Washington, and Idaho. Some of this northern grain comes by rail and some by coastwise vessels. Of the total amount of wheat received at San Francisco during the five years ending June 30, 1910, more than four-fifths came by sea from ports of Oregon and Washington; prior to this time scarcely one-tenth came by this route. Barley was not brought from the north in such large quantities, at least not over this route. (Table 3.)

TABLE 3.—*Receipts of wheat, barley, and wheat flour at San Francisco from all sources, and receipts from Oregon and Washington by sea, 1888–1909.*[a]

Year ending June 30—	Wheat.			Barley.			Wheat flour.		
	Bushels.	From Oregon and Washington by sea.		Bushels.	From Oregon and Washington by sea.		Barrels.	From Oregon and Washington by sea.	
		Bushels.	Per cent of total.		Bushels.	Per cent of total.		Barrels.	Per cent of total.
Average:									
1888–1890..	21,388,277	1,438,017	6.7	5,124,519	.....	.....	1,234,225	97,849	7.9
1891–1895..	21,015,518	2,322,220	11.0	5,574,050	350,488	6.3	1,290,626	164,574	12.8
1896–1900..	13,984,060	1,139,118	8.1	8,170,148	362,248	4.4	1,416,586	350,308	24.7
1901–1905..	10,275,275	914,460	8.9	10,100,092	74,578	.7	1,489,918	367,858	24.7
1906–1910..	4,314,789	3,463,199	80.3	7,193,585	182,556	2.5	895,575	446,977	49.9
1906.....	6,184,728	5,239,902	84.7	6,057,246	28,077	.5	815,612	354,428	43.5
1907.....	1,713,065	642,120	37.5	9,261,425	42,775	.5	1,030,679	404,899	39.3
1908.....	3,901,725	2,522,100	64.6	5,637,023	597,727	10.6	885,645	419,628	47.4
1909.....	4,558,853	4,136,740	90.7	8,150,915	242,419	3.0	907,947	542,734	59.8
1910.....	5,215,572	4,775,133	91.6	6,861,317	1,781	(b)	837,993	513,197	61.2

[a] Compiled from annual reports of the San Francisco Merchants' Exchange.
[b] Less than 0.05 per cent.

COASTWISE SHIPMENTS FROM PORTLAND AND TACOMA.

The wheat shipped in coastwise vessels from Portland and Tacoma during the year ending June 30, 1910, amounted to more than 4,600,000 bushels, while barley shipments were comparatively small. (Table 4.) Much of this grain is carried by regular lines of steamers, but when rates are high enough boats usually engaged in the lumber trade may bid against the regular lines for cargoes of grain.

TABLE 4.—*Shipments of wheat and barley from Portland and Tacoma to other United States ports, 1906–1910.*[a]

Year ending June 30—	From Portland.		From Tacoma.	
	Wheat.	Barley.	Wheat.	Barley.
	Bushels.	*Bushels.*	*Bushels.*	*Bushels.*
1906	(b)	(b)	2,374,262	20,096
1907	900,904	5,600	312,012	26,103
1908	2,446,236	241,608	970,817	173,724
1909	3,932,891	153,694	967,960	4,621
1910	3,890,055	10,958	1,725,406	2,500
Average	[c] 2,792,522	[c] 102,965	1,270,091	45,409

[a] From reports of harbor masters and the Monthly Summary of Commerce and Finance.
[b] Not stated.
[c] Average, four years, 1907–1910.

RIVER TRAFFIC.

The figures in Table 5 are not to be taken to include all freight carried on the waterways named; it may be assumed that some traffic has not been reported. Presuming the unreported tonnage to remain about the same, or to vary in the same proportion as that reported, the annual reports may be taken to indicate a general increase or decrease in traffic.

TABLE 5.—*Tonnage of all freight and of grain and live stock carried on selected inland waterways of the Pacific coast region, 1900–1908.*[a]

[Tons of 2,000 pounds.]

Calendar year.	Lower Columbia River (excluding sea-going traffic).			Upper Columbia (above Celilo) and Snake Rivers.			San Joaquin River.	Sacramento River.
	All freight.	Grain.	Live stock.	All freight.	Grain.	Live stock.	All freight.	All freight.
	Tons.	*Tons.*	*Tons.*	*Tons.*	*Tons.*	*Tons.*	*Tons.*	*Tons.*
1900	1,287,582	26,208	7,065	35,920	25,231	603	270,887	461,314
1901	1,534,780	48,990	6,328	36,723	29,131	519	357,746	452,965
1902	1,567,336	42,039	5,848	37,824	31,328	130	322,000	404,900
1903	1,596,220	38,680	5,659	44,379	34,034	491	366,038	383,724
1904	1,905,451	31,694	6,964	43,547	32,348	1,205	360,486	353,164
1905	2,313,153	31,250	7,013	28,380	14,936	42	373,186	365,957
1906	2,331,121	22,478	6,962	71,556	40,023	589	440,300	375,000
1907	2,586,964	66,385	8,945	47,004	31,596	503	[b] 736,472	367,224
1908	2,927,041	44,781	8,207	47,674	43,890	151	509,233	394,945

[a] As reported to United States Army engineers.
[b] Does not include lumber and tan bark valued at $1,150,200.

On this assumption, traffic on the Columbia, Sacramento, and San Joaquin Rivers, taken together, increased considerably from 1900 to 1908. One of the principal commodities on the Columbia is grain; in 1907 more than 66,000 tons,[a] and in 1908 nearly 45,000 tons, were carried. The tonnage of live stock on the lower Columbia in 1907 would be equivalent to about 16,000 head of cattle or 179,000 head of sheep.

[a] Unless otherwise stated, the ton throughout this bulletin refers to the short ton of 2,000 pounds.

Although data showing grain traffic on the Sacramento and San Joaquin are but fragmentary, it is known that much wheat and barley are shipped by steamboats and barges down these streams to tidewater. The grain carried on the San Joaquin in 1907 was reported as 137,306 tons, while 109,427 tons were reported in 1906 and 63,457 tons in 1908; live-stock traffic in 1906 amounted to 3,336 tons and to 3,244 tons in 1908.

Compared with other systems of inland waterways in the United States, the Pacific coast system (including Alaska) was fourth in the order of total freight carried but second in tonnage of grain, according to the census report, 1906. (Table 6.)

TABLE 6.—*Tonnage of grain and of all freight carried on inland waterways of the United States, 1906.*[a]

[Tons of 2,000 pounds.]

Group of waterways.	Grain.		All freight.	
	Tons.	Per cent of total United States.	Tons.	Per cent of total United States.
Great Lakes and St. Lawrence River	3,689,329	63.7	75,610,690	42.6
Pacific coast, including Alaska	691,779	11.9	13,301,293	7.5
Atlantic coast and Gulf of Mexico	530,843	9.1	65,360,958	36.8
Mississippi River and tributaries	380,721	6.6	19,531,093	11.0
All other	499,340	8.7	3,716,765	2.1
Total contiguous United States and Alaska	5,792,012	100.0	177,520,799	100.0

[a] Special report of the Bureau of the Census on "Transportation by water, 1906," pp. 34 and 35. Data for Great Lakes and St. Lawrence River, quoted by census from reports of the Department of Commerce and Labor on the "Internal commerce of the United States," include freight moved from place to place within harbors; other data exclude harbor traffic.

CHIEF RIVER PORTS.

The shipments on inland waterways from the principal river ports of the Pacific coast included in 1906 less than one-half of the entire tonnage carried on the inland waterways of this region, and slightly more than one-half of the grain tonnage. This is to be expected, since much of this traffic consists of numerous consignments shipped from a large number of minor ports and landings. As given in Table 7, the grain tonnage on these waterways, excluding seagoing and harbor traffic, amounted to nearly 5 per cent of the total tonnage.

TABLE 7.—*Shipments on inland waterways of grain and of all freight from selected ports of the Pacific coast, 1906.* [a]

[Tons of 2,000 pounds.]

Shipped from—	Grain.	All freight.
	Tons.	*Tons.*
San Francisco	117,856	1,656,614
Stockton	85,461	260,195
Seattle	58,411	856,988
Portland	55,019	492,573
Tacoma	34,137	270,256
Alaska ports	2,944	218,515
Sacramento	2,936	254,023
All other ports	335,015	9,292,129
Total	691,779	13,301,293

[a] Special report of the Bureau of the Census on "Transportation by water, 1906." Seagoing and harbor traffic not included.

THE PANAMA ROUTE.

Of the freight crossing the Isthmus of Panama in transit between New York and San Francisco, most of the agricultural produce, at least prior to 1893, was eastbound. Among the chief articles of this class were wool, hides, and skins. Subsequent to 1892 the separate items of this trade were not published in the official returns.

The westbound traffic over the Panama route is more valuable than the eastbound; in 1906–1909 the average yearly movement westward amounted to about $3,200,000, while freight carried in the opposite direction was worth about $1,700,000.

In addition to the trade between these two cities, there are also movements between other Atlantic and Pacific ports by way of Panama, including Hawaiian sugar on its way to refineries along the North Atlantic seaboard. (Tables 8 and 9.)

TABLE 8.—*Value of all merchandise and of farm products carried between New York and San Francisco via the Isthmus of Panama, 1871–1892.* [a]

Year ending June 30—	From New York to San Francisco.			From San Francisco to New York.		
	Total merchandise.	Farm products.		Total merchandise.	Farm products.	
		Amount.	Per cent of total.		Amount.	Per cent of total.
Average:						
1871–1875	$6,314,329	$370,559	5.9	$2,493,527	$1,212,559	48.6
1876–1880	3,372,585	226,272	6.7	2,457,038	994,029	40.5
1881–1885	1,053,563	40,913	3.9	2,059,580	763,801	37.1
1886–1890	2,005,176	79,119	3.9	1,666,226	1,029,160	61.8
1891	2,560,132	52,477	2.0	1,129,893	891,613	78.9
1892	2,123,534	51,442	2.4	1,338,260	840,120	62.8

[a] Compiled from annual reports of the Foreign Commerce and Navigation of the United States, published by the United States Department of Commerce and Labor.

TABLE 9.—*Shipments of domestic and foreign merchandise between New York and San Francisco via the Isthmus of Panama, 1871–1909.*[a]

Year ending June 30—	From New York to San Francisco.			From San Francisco to New York.		
	Domestic.	Foreign.	Total.	Domestic.	Foreign.	Total.
Average:						
1871–1875	$6,314,329	$141,833	$6,456,162	$2,493,527	$116,607	$2,610,134
1876–1880	3,372,585	145,404	3,517,989	2,457,038	29,444	2,486,482
1881–1885	1,053,563	5,179	1,058,742	2,059,580	20,030	2,079,610
1886–1890	2,005,176	58,155	2,063,331	1,666,226	87,447	1,753,673
1891–1895	2,714,962	47,307	2,762,269	1,491,793	52,196	1,543,989
1896–1900	4,094,791	14,470	4,109,261	1,371,146	27,548	1,398,694
1901–1905	5,439,810	2,049	5,441,859	2,577,949	28,355	2,606,304
1906–1909	3,239,442	.....	3,239,442	1,721,510	20,529	1,742,039
1906	3,766,489	.....	3,766,489	2,002,907	7,100	2,010,007
1907	[b]3,302,475	.....	[b]3,302,475	[c]2,278,112	[c]54,283	[c]2,332,395
1908	2,372,671	.....	2,372,671	1,409,207	17,261	1,426,468
1909	3,516,133	.....	3,516,133	1,195,816	3,471	1,199,287

[a] Compiled from annual reports of the Foreign Commerce and Navigation of the United States, published by the United States Department of Commerce and Labor.
[b] From New York to "Pacific ports."
[c] From San Francisco to "Atlantic ports."

TEHUANTEPEC AND CAPE HORN.

In January, 1907, a new route was opened between the Atlantic and Pacific coasts of the United States. The Tehuantepec National Railway, about 190 miles long, was completed between Puerto Mexico (until then called Coatzacoalcos), on the east coast of Mexico, and Salina Cruz, on the west coast. At each terminal connection was made with steamship lines and through service thereby established. Freight cars were made with movable roofs, so that articles could be reached by ships' tackle and transferred to or from ocean vessels.

The traffic over this route from San Francisco to New York was less than $400,000 in the six months ending June 30, 1907, and more than $4,700,000 in the fiscal year 1909, while goods from Hawaii to Atlantic ports exceeded $18,000,000 in 1909. Shipments from New York to San Francisco in this fiscal year were worth nearly $16,000,000 and to Hawaii nearly $3,000,000.

For the old way between the eastern and the western coasts of the United States, the sailing vessels' course around Cape Horn, complete traffic figures are lacking. A constant service is maintained over this route and many of the ships used are built of steel and fitted with modern appliances. The commodities carried from San Francisco by these sailers include wine, wool, canned goods, scrap iron, and miscellaneous package freight. Steamships also engage to some extent in this traffic around South America; they, however, are frequently able to use the shorter passage through the Strait of Magellan instead of going around Cape Horn. Occasionally some grain is carried over this all-water route to United States Atlantic ports. One steamer, leaving San Francisco May 18, 1910, carried about 60,000 bushels of barley as part of its cargo; the destination, New York, was reached July 20.

The vessels in this trade sometimes include Hawaii in their service, and carry sugar thence to the Atlantic coast. In addition to miscellaneous package freight, "general cargo" as it is called, an important item in this westbound tonnage around Cape Horn is coal.

The two preceding paragraphs refer only to trade between United States ports and do not touch upon the large traffic between Pacific coast ports and Europe. Exports of grain to foreign countries are discussed on pages 28 to 40, inclusive.

ALASKA.

For the past several years about $6,000,000 worth of farm products has been shipped annually from more southern of the United States ports to Alaska, of which amount about $2,000,000 consisted of grain products, meat, and live animals. (Table 10.)

A considerable part of the live stock in this trade moves through Seattle, coming by rail from the interior and being transshipped to coastwise steamers at this port. For the seven semiannual periods shown in Table 11, from 11 to nearly 52 per cent of the number of live animals sent from other parts of the United States to Alaska were loaded out from Seattle.

TABLE 10.—*Shipments of domestic live animals, packing-house products, grain, and grain products from other parts of the United States to Alaska, 1903–1910.*[a]

Article.	Year ending June 30—							
	1903		1904		1905		1906	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
Live animals:								
Cattle.....No..	1,089	$57,493	1,014	$50,300	1,540	$88,357	1,875	$118,600
Horses.....No..	714	71,777	688	81,702	764	87,654	749	110,871
Sheep.....No..	11,591	37,720	11,141	37,764	3,089	13,094	3,101	17,776
Other.....	.....	33,453	.....	21,134	.....	24,059	.....	30,743
Total live animals.....	.....	200,443	.....	190,900	.....	213,164	.....	277,990
Packing-house products:								
Beef, canned and cured, pounds.....	1,547,184	54,149	803,811	73,069	855,589	70,573	1,000,987	78,950
Beef, fresh.....lbs..	590,532	140,178	2,335,942	199,467	2,585,218	202,413	3,916,596	294,780
Pork, canned and cured, pounds.....	1,307,323	186,001	1,615,071	221 903	2,355,408	314,645	2,855,128	385,158
Pork, fresh.....lbs..	25,637	3,575	199,409	19,208	332,636	31,356	453,557	45,185
Other.....	.....	237,704	.....	173,296	.....	173,459	.....	220,187
Total packing-house products.....	.....	621,607	.....	686,943	.....	792,446	.....	1,024,260
Grain and grain products:								
Bread and biscuit.....lbs..	433,718	24,673	743,344	45,326	868,005	49,254	1,154,205	65,282
Oats.....bush..	176,456	89,010	176,861	73,891	302,353	141,193	381,893	178,483
Wheat flour.....bbls..	35,583	132,473	40,711	175,643	51,847	230,360	60,773	274,698
Other.....	.....	133,545	.....	98,062	.....	118,225	.....	111,260
Total grain and grain products.....	.....	379,701	.....	392,922	.....	539,032	.....	629,723
Total value, three groups named above.....	.....	1,201,751	.....	1,270,765	.....	1,544,642	.....	1,931,973

[a] Compiled from annual reports of the Foreign Commerce and Navigation of the United States.

TABLE 10.—*Shipments of domestic live animals, packing-house products, grain, and grain products from other parts of the United States to Alaska, 1903–1910*—Continued.

Article.	Year ending June 30—							
	1907		1908		1909		1910	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
Live animals:								
Cattle.....No..	2,223	$137,324	1,721	$112,049	2,672	$177,150	1,654	$110,277
Horses.....No..	1,025	200,287	504	70,637	421	92,845	274	59,750
Sheep.....No..	5,393	32,850	2,427	15,914	4,495	29,027	612	3,642
Other.....	.....	41,364	.....	28,092	.....	24,388	.....	30,215
Total live animals.....	.....	411,825	.....	226,692	.....	323,410	.....	203,884
Packing-house products:								
Beef, canned and cured, pounds.....	957,965	78,325	708,749	62,258	787,661	72,939	1,247,343	123,320
Beef, fresh.....lbs..	3,987,665	339,428	3,802,667	316,020	4,448,510	392,371	3,893,205	362,573
Pork, canned and cured, pounds.....	2,921,761	455,873	3,119,753	473,289	3,558,643	566,234	3,149,361	569,159
Pork, fresh.....lbs..	640,697	70,918	523,204	59,185	613,361	70,447	516,484	71,045
Other.....	.....	251,542	.....	206,766	.....	258,400	.....	287,389
Total packing-house products.....	.....	1,196,086	.....	1,117,518	.....	1,360,391	.....	1,413,486
Grain and grain products:								
Bread and biscuit.....lbs..	1,298,219	73,341	1,015,672	64,930	1,323,759	78,102	1,402,553	88,348
Oats.....bush..	449,855	227,093	423,674	206,389	393,881	213,925	349,836	208,565
Wheat flour.....bbls..	63,662	281,504	48,768	223,596	54,016	281,306	65,722	374,953
Other.....	.....	111,430	.....	147,062	.....	142,687	.....	155,094
Total grain and grain products.....	.....	693,368	.....	641,977	.....	716,020	.....	826,960
Total value, three groups named above.....	.....	2,301,279	.....	1,986,187	.....	2,399,821	.....	2,444,330

TABLE 11.—*Semiannual shipments of live stock from Seattle and other United States ports to Alaska, from July, 1907, to December, 1910, inclusive.*

Six months ending—	From Seattle.[a]		From other United States ports.		Total number.[b]
	Number.	Per cent of total.	Number.	Per cent of total.	
December, 1907	897	28.9	2,212	71.1	3,109
June, 1908	1,170	48.5	1,241	51.5	2,411
December, 1908	493	11.3	3,874	88.7	4,367
June, 1909	1,891	44.0	2,411	56.0	4,302
December, 1909	337	19.3	1,405	80.7	1,742
June, 1910	494	25.0	1,482	75.0	1,976
December, 1910	474	51.8	441	48.2	915

[a] Reports of the Seattle harbor master.
[b] Monthly Summary of Commerce and Finance of the United States.

HAWAII.

The grain and grain products, packing-house products, and live animals shipped from other parts of the United States to Hawaii during the last few years, covered by Table 12, were about the same in value as the corresponding shipments to Alaska. The chief items in this movement were bran, middlings and mill feed, wheat flour, and barley.

TABLE 12.—*Shipments of domestic live animals, packing-house products, grain, and grain products from other parts of the United States to Hawaii, 1900, 1903–1910.*[a]

Article.	Year ending June 30—					
	1900		1903		1904	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
Live animals:						
Cattle.....number..	75	$4,215	36	$3,591	93	$9,291
Horses.....do....	706	74,922	131	14,870	67	9,085
Mules.....do....	1,260	123,333	213	25,680	310	39,306
Sheep.....do....	.....	.....	162	1,618	564	2,098
Swine.....do....	2,699	18,427	2,009	17,542	4,070	29,092
Other.....	.....	14,725	.....	2,319	.....	4,274
Total live animals.....	.....	235,622	.....	65,620	.....	93,146
Packing-house products:						
Beef, canned and cured..pounds..	678,180	98,140	738,920	77,988	815,284	76,990
Beef, fresh.....do....	593,148	46,963	89,582	7,493	31,903	2,707
Pork, canned and cured...do....	734,297	86,388	605,873	87,982	571,397	80,251
Pork, fresh.....do....	.....	.....	167,670	18,155	140,434	13,957
Other.....	.....	71,943	.....	148,234	.....	137,036
Total packing-house products..	.....	303,434	.....	339,852	.....	310,941
Grain and grain products:						
Barley.....bushels..	657,763	275,327	953,427	526,074	870,769	478,385
Bran, middlings, and mill feed, tons.....	10,564	161,248	11,758	250,363	11,671	257,796
Bread and biscuit.....pounds..	1,909,760	84,949	1,181,973	70,578	1,130,954	67,043
Corn.....bushels..	31,674	21,149	55,683	48,158	41,553	37,239
Oats.....do....	179,204	73,586	137,981	57,890	117,313	49,996
Wheat.....do....	16,535	11,464	38,617	32,310	40,940	37,098
Wheat flour.....barrels..	107,827	366,557	106,029	411,790	118,615	513,210
Other.....	.....	30,324	.....	73,290	.....	84,924
Total grain and grain products..	.....	1,024,604	.....	1,470,453	.....	1,525,691
Total value, three groups named above.....	.....	1,563,660	.....	1,875,925	.....	1,929,778

Article.	Year ending June 30—					
	1905		1906		1907	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
Live animals:						
Cattle.....number..	143	$10,125	119	$10,355	66	$6,665
Horses.....do....	45	8,280	65	10,540	111	20,050
Mules.....do....	270	35,610	339	59,365	352	69,920
Sheep.....do....	20	339	123	818	25	300
Swine.....do....	2,236	14,075	3,758	29,738	2,199	22,724
Other.....	.....	4,487	.....	4,381	.....	4,561
Total live animals.....	.....	72,916	.....	115,197	.....	124,220
Packing-house products:						
Beef, canned and cured..pounds..	798,841	76,840	1,128,106	106,260	503,436	46,602
Beef, fresh.....do....	10,417	998	20,347	2,002	.....	.....
Pork, canned and cured....do....	514,470	67,467	602,683	78,883	567,588	85,308
Pork, fresh.....do....	110,920	11,079	63,467	6,877	42,352	5,690
Other.....	.....	136,549	.....	139,414	.....	153,213
Total packing-house products..	.....	292,933	.....	333,436	.....	290,813

[a] Compiled from annual reports of the Foreign Commerce and Navigation of the United States.

TABLE 12.—*Shipments of domestic live animals, packing-house products, grain, and grain products from other parts of the United States to Hawaii, 1900, 1903–1910*—Continued.

Article.	Year ending June 30—					
	1905		1906		1907	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
Grain and grain products:						
Barley.....bushels..	880,961	$501,227	913,441	$529,609	830,635	$470,433
Bran, middlings, and mill feed, tons.....	9,353	202,337	11,751	243,588	15,289	308,405
Bread and biscuit.....pounds..	870,256	57,042	872,504	58,517	700,990	52,533
Corn.....bushels..	43,176	37,293	57,404	46,619	51,801	41,690
Oats.....do....	84,958	39,340	81,939	37,820	91,614	35,420
Wheat.....do....	41,404	39,099	45,969	40,071	52,227	41,895
Wheat flour.....barrels..	99,590	440,217	109,287	444,158	106,715	424,169
Other.....	.....	98,420	.....	85,055	.....	95,522
Total grain and grain products..	.....	1,414,975	.....	1,485,437	.....	1,470,067
Total value, three groups named above.....	.....	1,780,824	.....	1,934,070	.....	1,885,100

Article.	Year ending June 30—					
	1908		1909		1910	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
Live animals:						
Cattle.....number..	221	$25,800	119	$8,550	152	$16,980
Horses.....do....	176	38,212	718	124,891	136	28,760
Mules.....do....	540	108,147	797	156,710	668	133,995
Sheep.....do....	45	410	39	424	100	510
Swine.....do....	502	5,463	1,660	17,887	411	4,637
Other.....	.....	10,289	.....	6,096	.....	5,620
Total live animals.....	.....	188,321	.....	314,558	.....	190,502
Packing-house products:						
Beef, canned and cured.pounds..	678,350	68,014	617,541	68,747	557,507	64,814
Beef, fresh.....do....	.....	.....	237,227	22,284	58,733	5,329
Pork, canned and cured....do....	583,538	87,951	665,400	100,058	648,781	116,908
Pork, fresh.....do....	28,774	3,971	155,293	19,362	49,806	7,375
Other.....	.....	161,705	.....	199,710	.....	238,107
Total packing-house products..	.....	321,641	.....	410,161	.....	432,533
Grain and grain products:						
Barley.....bushels..	501,551	338,545	575,819	410,637	781,814	514,573
Bran, middlings, and mill feed, tons.....	22,234	549,226	22,942	604,480	16,877	452,349
Bread and biscuit.....pounds..	635,017	43,770	469,877	37,036	326,982	25,693
Corn.....bushels..	49,340	42,494	58,937	55,595	40,967	38,218
Oats.....do....	104,850	52,052	152,695	81,101	150,926	77,245
Wheat.....do....	60,345	58,167	69,692	73,133	68,053	71,891
Wheat flour.....barrels..	113,185	502,488	121,838	567,603	103,548	535,732
Other.....	.....	97,190	.....	143,533	.....	203,080
Total grain and grain products..	.....	1,683,932	.....	1,973,118	.....	1,918,781
Total value, three groups named above.....	.....	2,193,894	.....	2,697,837	.....	2,541,816

LIVE STOCK AT PORTLAND.

Seasons and routes of marketing are illustrated in Tables 13 and 14, which are based upon reports of the new stockyards at Portland. The receipts of cattle are fairly well distributed throughout the year. The lowest relative number for any month of the year ending September, 1910, was 5.9 per cent of the total year's receipts, and the

highest percentage was 11.0. The receipts of hogs ranged from 3.1 per cent in February, 1910, to 13.6 per cent in October, 1909; while the receipts of sheep ranged from 3.2 per cent for March, 1910, to 14.9 per cent in September, 1910.

Grouped by points of origin, by far the greatest number of the cattle was delivered by railroads connecting Portland with the valleys of the Columbia and Snake Rivers, and more than one-half of the sheep came over the same routes. Hogs came chiefly from the east, some of them from points as far away as Nebraska. It will be noted that the cattle and sheep reaching Portland from the south came in largest numbers in the months when receipts from the east were smallest.

TABLE 13.—*Monthly* **receipts** *of live stock at Union Stockyards, Portland, during the year ending Sept. 30, 1910, by routes.*[a]

Kind and month.	Route.											
	By rail.						By boats.		Driven in.		Total.	
	East.		North and west.		South.							
	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.
CATTLE.												
1909.												
October	7,573	11.9	.....	.....	1,002	4.0	.....	.....	140	17.3	8,715	9.6
November	5,504	8.7	64	8.1	744	3.0	103	12.0	38	4.7	6,453	7.1
December	4,708	7.4	189	24.0	301	1.2	128	14.9	62	7.6	5,388	5.9
1910.												
January	8,030	12.7	.....	.....	1,814	7.3	.....	.....	158	19.5	10,002	11.0
February	6,124	9.7	.....	.....	1,054	4.3	65	7.6	27	3.3	7,270	8.0
March	6,167	9.7	250	31.8	1,288	5.2	29	3.4	15	1.8	7,749	8.6
April	4,774	7.5	37	4.7	1,637	6.6	21	2.4	19	2.3	6,488	7.2
May	1,019	1.6	2	.3	5,911	23.8	213	24.8	41	5.1	7,186	7.9
June	3,310	5.2	.....	.....	5,611	22.6	77	9.0	16	2.0	9,014	9.9
July	3,935	6.2	85	11.0	1,807	7.3	150	17.5	8	1.0	5,985	6.6
August	4,914	7.8	96	12.0	2,690	10.8	46	5.4	40	4.9	7,786	8.6
September	7,387	11.6	63	8.1	976	3.9	26	3.0	247	30.5	8,699	9.6
12 months	63,445	100.0	786	100.0	24,835	100.0	858	100.0	811	100.0	90,735	100.0
CALVES.												
1909.												
October	805	12.6	.....	.....	133	7.8	.....	.....	1	5.0	939	11.5
November	569	8.9	.....	.....	52	3.0	.....	.....	1	5.0	622	7.6
December	858	13.5	1	8.3	15	.9	3	6.4	.....	.....	877	10.7
1910.												
January	284	4.5	.....	.....	10	.6	.....	.....	.....	.....	294	3.6
February	162	2.5	.....	.....	47	2.8	.....	.....	.....	.....	209	2.6
March	287	4.5	.....	.....	23	1.3	.....	.....	.....	.....	310	3.8
April	125	2.0	.....	.....	138	8.1	14	29.8	.....	.....	277	3.4
May	74	1.2	.....	.....	174	10.2	6	12.8	12	60.0	266	3.3
June	1,179	18.5	.....	.....	381	22.3	.....	.....	2	10.0	1,562	19.1
July	465	7.3	1	8.3	334	19.5	20	42.5	1	5.0	821	10.1
August	417	6.5	10	83.4	281	16.4	4	8.5	2	10.0	713	8.7
September	1,149	18.0	.....	.....	122	7.1	.....	.....	1	5.0	1,272	15.6
12 months	6,374	100.0	12	100.0	1,710	100.0	47	100.0	20	100.0	8,162	100.0
SHEEP.												
1909.												
October	11,060	15.3	.....	.....	4,813	7.0	.....	.....	695	6.0	16,568	10.8
November	3,294	4.5	.....	.....	4,379	6.4	.....	.....	.....	.....	7,673	5.0
December	2,256	3.1	82	10.0	5,111	7.4	.....	.....	402	3.4	7,851	5.1

[a] Compiled from the First Annual Report of the Portland Union Stockyards Co.

TABLE 13.—*Monthly* **receipts** *of live stock at Union Stockyards, Portland, during the year ending Sept. 30, 1910, by routes*—Continued.

Kind and month.	Route.											
	By rail.						By boats.		Driven in.		Total.	
	East.		North and west.		South.							
	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.
SHEEP—continued.												
1910.												
January	6,486	9.0	151	18.3	1,599	2.3	.....	.....	457	3.9	8,693	5.6
February	4,285	5.9	68	8.3	169	.3	.....	.....	966	8.3	5,488	3.6
March	2,843	3.9	255	30.9	1,807	2.6	24	7.8	60	.5	4,989	3.2
April	1,989	2.7	178	21.6	4,241	6.2	126	40.9	264	2.3	6,798	4.4
May	2,139	3.0	.....	.....	14,721	21.4	126	40.9	1,067	9.2	18,053	11.7
June	5,437	7.5	.....	.....	16,083	23.4	.....	.....	784	6.7	22,304	14.5
July	4,892	6.8	90	10.9	6,929	10.1	.....	.....	1,573	13.5	13,484	8.8
August	11,920	16.4	.....	.....	4,874	7.1	9	2.9	2,270	19.5	19,073	12.4
September	15,912	21.9	.....	.....	3,954	5.8	23	7.5	3,108	26.7	22,997	14.9
12 months	72,513	100.0	824	100.0	68,680	100.0	308	100.0	11,646	100.0	153,971	100.0
HOGS.												
1909.												
October	8,620	10.9	.....	.....	4,203	29.7	146	10.9	25	7.9	12,994	13.6
November	8,825	11.1	.....	.....	3,401	24.0	69	5.2	40	12.7	12,335	12.9
December	9,780	12.3	84	23.8	983	6.9	85	6.3	2	.6	10,934	11.4
1910.												
January	5,567	7.0	.....	.....	885	6.3	72	5.4	17	5.4	6,541	6.8
February	2,621	3.3	18	5.1	203	1.4	96	7.2	.....	.....	2,938	3.1
March	4,471	5.6	178	50.4	241	1.7	39	2.9	.....	.....	4,929	5.2
April	5,022	6.3	.....	.....	419	3.0	21	1.6	1	.3	5,463	5.7
May	9,618	12.1	.....	.....	404	2.9	10	.7	25	8.0	10,057	10.5
June	5,812	7.3	.....	.....	1,021	7.2	24	1.8	.....	.....	6,857	7.2
July	5,347	6.7	23	6.5	503	3.6	353	26.4	.....	.....	6,226	6.5
August	5,723	7.2	.....	.....	302	2.1	212	15.8	179	56.8	6,416	6.7
September	8,105	10.2	50	14.2	1,587	11.2	212	15.8	26	8.3	9,980	10.4
12 months	79,511	100.0	353	100.0	14,152	100.0	1,339	100.0	315	100.0	95,670	100.0
HORSES AND MULES.												
1909.												
October	77	4.9	.....	.....	23	21.1	.....	.....	.....	.....	100	5.2
November	219	13.8	.....	.....	35	32.1	.....	.....	.....	.....	254	13.3
December	111	7.0	37	19.1	28	25.7	.....	.....	.....	.....	176	9.2
1910.												
January	63	4.0	.....	.....	.....	.....	.....	.....	.....	.....	63	3.3
February	225	14.2	.....	.....	5	4.6	.....	.....	.....	.....	230	12.0
March	101	6.4	99	51.0	7	6.4	.....	.....	.....	.....	207	10.8
April	38	2.4	.....	.....	.....	.....	.....	.....	.....	.....	38	2.0
May	137	8.7	1	.5	.....	.....	.....	.....	14	56.0	152	8.0
June	203	12.8	26	13.4	3	2.8	.....	.....	.....	.....	232	12.2
July	269	17.0	29	15.0	4	3.7	.....	.....	4	16.0	306	16.0
August	65	4.1	2	1.0	3	2.7	.....	.....	3	12.0	73	3.8
September	75	4.7	.....	.....	1	.9	.....	.....	4	16.0	80	4.2
12 months	1,583	100.0	194	100.0	109	100.0	.....	.....	25	100.0	1,911	100.0
ALL LIVE STOCK.												
1909.	Cars.	Per cent.	Cars.	Per cent.	Cars.	Per cent.					Cars.	Per cent.
October	440	11.6	.....	.....	127	7.4	.....	.....	.....	.....	567	10.2
November	343	9.0	2	3.6	112	6.5	.....	.....	.....	.....	457	8.2
December	311	8.2	11	20.0	71	4.1	.....	.....	.....	.....	393	7.1
1910.												
January	401	10.6	1	1.8	100	5.8	.....	.....	.....	.....	502	9.0
Feburary	302	8.0	1	1.8	48	2.8	.....	.....	.....	.....	351	6.3
March	313	8.2	20	36.4	69	4.0	.....	.....	.....	.....	402	7.2
April	253	6.7	3	5.5	107	6.2	.....	.....	.....	.....	363	6.5
May	169	4.5	1	1.8	345	20.0	.....	.....	.....	.....	515	9.3
June	233	6.1	2	3.6	355	20.7	.....	.....	.....	.....	590	10.6
July	254	6.7	5	9.1	141	8.2	.....	.....	.....	.....	400	7.2
August	311	8.2	5	9.1	153	8.9	.....	.....	.....	.....	469	8.4
September	463	12.2	4	7.3	92	5.4	.....	.....	.....	.....	559	10.0
12 months	3,793	100.0	55	100.0	1,720	100.0	.....	.....	.....	.....	5,568	100.0

TABLE 14.—*Monthly* **shipments** *of live stock from Union Stockyards, Portland, during the year ending Sept. 30, 1910, by routes.*[a]

Kind and month.	Route.											
	By rail.						By boats.		Driven out.		Total.	
	East.		North and west.		South.							
	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.
CATTLE.												
1909.												
October	1,320	15.9	2,448	7.9	1	.....	306	11.4	4,346	9.4	8,421	9.3
November	1,116	13.5	1,887	6.1	15	0.7	40	1.5	3,502	7.6	6,560	7.2
December	549	6.6	1,925	6.2	54	2.5	53	2.0	2,994	6.5	5,575	6.2
1910.												
January	675	8.1	4,296	13.9	513	23.4	.....	.....	3,807	8.2	9,291	10.3
February	770	9.3	3,113	10.0	352	16.0	41	1.5	3,490	7.5	7,766	8.6
March	845	10.2	2,499	8.1	100	4.5	242	9.0	3,892	8.4	7,578	8.4
April	653	7.9	1,898	6.1	301	13.7	598	22.2	3,291	7.1	6,741	7.4
May	519	6.3	2,278	7.3	133	6.1	411	15.2	3,577	7.7	6,918	7.6
June	699	8.4	3,385	10.9	137	6.2	296	11.0	4,213	9.1	8,730	9.7
July	144	1.7	2,404	7.8	140	6.4	459	17.0	3,378	7.3	6,525	7.2
August	743	9.0	2,331	7.5	200	9.1	67	2.5	4,537	9.8	7,878	8.7
September	260	3.1	2,557	8.2	250	11.4	181	6.7	5,261	11.4	8,509	9.4
12 months	8,293	100.0	31,021	100.0	2,196	100.0	2,694	100.0	46,288	100.0	90,492	100.0
CALVES.												
1909.												
October	281	13.6	276	10.0	.....	.....	.....	.....	356	11.6	913	11.2
November	362	17.4	262	9.5	6	21.4	.....	.....	18	.6	648	8.0
December	540	26.0	285	10.3	.....	.....	.....	.....	52	1.7	877	10.8
1910.												
January	103	4.9	120	4.3	16	57.1	.....	.....	52	1.7	291	3.6
February	101	4.9	11	.4	.....	.....	.....	.....	100	3.2	212	2.6
March	171	8.2	53	1.9	.....	.....	4	2.2	82	2.7	310	3.8
April	11	.5	151	5.5	2	7.2	13	7.1	83	2.7	260	3.2
May	72	3.5	73	2.6	3	10.7	1	.5	120	3.9	269	3.3
June	163	7.8	430	15.6	.....	.....	80	44.0	744	24.2	1,417	17.4
July	50	2.4	344	12.4	1	3.6	66	36.3	517	16.8	978	12.0
August	110	5.3	258	9.3	.....	.....	.....	.....	343	11.2	711	8.8
September	114	5.5	502	18.2	.....	.....	18	9.9	605	19.7	1,239	15.3
12 months	2,078	100.0	2,765	100.0	28	100.0	182	100.0	3,072	100.0	8,125	100.0
SHEEP.												
1909.												
October	1,653	9.8	4,713	7.9	.....	.....	909	29.3	9,293	12.8	16,568	10.8
November	1,075	6.4	1,634	2.7	5	3.1	507	16.3	4,452	6.1	7,673	5.0
December	1,825	10.8	3,186	5.3	.....	.....	364	11.7	2,409	3.3	7,784	5.1
1910.												
January	3,164	18.7	1,725	2.9	.....	.....	.....	.....	3,470	4.8	8,359	5.5
February	1,108	6.5	2,670	4.5	.....	.....	.....	.....	2,111	2.9	5,889	3.9
March	145	.9	2,627	4.4	.....	.....	134	4.3	2,083	2.9	4,989	3.3
April	1,183	7.0	2,952	4.9	.....	.....	.....	.....	2,554	3.5	6,689	4.4
May	107	.6	9,307	15.5	2	1.3	60	1.9	8,685	11.9	18,161	11.9
June	617	3.6	10,394	17.4	153	95.6	338	10.9	9,926	13.6	21,428	14.0
July	767	4.5	5,808	9.7	.....	.....	.....	.....	6,945	9.5	13,520	8.8
August	4,135	24.5	4,872	8.1	.....	.....	198	6.4	10,247	14.1	19,452	12.7
September	1,129	6.7	10,002	16.7	.....	.....	596	19.2	10,594	14.6	22,321	14.6
12 months	16,908	100.0	59,890	100.0	160	100.0	3,106	100.0	72,769	100.0	152,833	100.0

[a] Compiled from the First Annual Report of the Portland Union Stock Yards Co.

TABLE 14.—*Monthly* **shipments** *of live stock from Union Stockyards, Portland, during the year ending Sept. 30, 1910, by routes*—Continued.

Kind and month.	Route.											
	By rail.						By boats.		Driven out.		Total.	
	East.		North and west.		South.							
	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.
HOGS.												
1909.												
October	5,784	21.9	6,158	19.3	152	10.2	585	15.8	175	.6	12,854	13.5
November	6,749	25.6	5,211	16.3	.....	.....	339	9.1	173	.6	12,472	13.1
December	6,732	25.5	2,962	9.3	527	35.2	495	13.3	221	.7	10,937	11.5
1910.												
January	2,849	10.8	3,000	9.4	.....	.....	162	4.4	347	1.1	6,358	6.7
February	1,055	4.0	1,114	3.5	154	10.3	594	16.0	190	.6	3,107	3.3
March	624	2.4	1,116	3.5	.....	.....	240	6.5	2,287	7.3	4,267	4.5
April	226	.8	1,041	3.3	87	5.8	237	6.4	3,695	11.8	5,286	5.6
May	543	2.1	1,791	5.6	151	10.1	239	6.4	5,256	16.7	7,980	8.4
June	516	2.0	1,804	5.6	182	12.2	201	5.4	6,982	22.2	9,685	10.2
July	401	1.5	2,131	6.7	.....	.....	206	5.5	3,275	10.4	6,013	6.3
August	577	2.2	1,988	6.2	149	9.9	111	3.0	3,779	12.0	6,604	7.0
September	326	1.2	3,615	11.3	94	6.3	303	8.2	5,005	16.0	9,343	9.9
12 months	26,382	100.0	31,931	100.0	1,496	100.0	3,712	100.0	31,385	100.0	94,906	100.0
HORSES AND MULES.												
1909.												
October	.....	.....	16	1.8	1	.3	.....	.....	83	14.9	100	5.2
November	77	44.0	131	15.0	.....	.....	.....	.....	46	8.3	254	13.3
December	15	8.6	59	6.8	75	24.6	.....	.....	.....	.....	149	7.8
1910.												
January	27	15.4	19	2.1	27	8.9	.....	.....	17	3.1	90	4.7
February	.....	.....	161	18.4	21	6.9	.....	.....	48	8.6	230	12.0
March	4	2.3	151	17.3	18	5.9	.....	.....	34	6.1	207	10.9
April	.....	.....	5	.6	4	1.3	.....	.....	29	5.2	38	2.0
May	22	12.6	50	5.7	77	25.2	.....	.....	3	.6	152	8.0
June	26	14.8	123	14.1	.....	.....	.....	.....	64	11.5	213	11.2
July	.....	.....	93	10.7	27	8.9	.....	.....	205	36.9	325	17.0
August	.....	.....	47	5.4	.....	.....	.....	.....	23	4.1	70	3.7
September	4	2.3	18	2.1	55	18.0	.....	.....	4	.7	81	4.2
12 months	175	100.0	873	100.0	305	100.0	.....	.....	556	100.0	1,909	100.0
ALL LIVE STOCK.												
1909.	*Cars.*	*Per cent.*	*Cars.*	*Per cent.*	*Cars.*	*Per cent.*					*Cars.*	*Per cent.*
October	134	16.9	181	9.2	2	1.6	.....	.....	.....	.....	317	11.0
November	135	17.0	158	8.0	2	1.6	.....	.....	.....	.....	295	10.3
December	122	15.4	151	7.7	14	11.3	.....	.....	.....	.....	287	10.0
1910.												
January	85	10.7	211	10.7	22	17.7	.....	.....	.....	.....	318	11.0
February	53	6.7	158	8.1	14	11.3	.....	.....	.....	.....	225	7.8
March	50	6.3	134	6.8	7	5.6	.....	.....	.....	.....	191	6.6
April	30	3.8	105	5.4	10	8.1	.....	.....	.....	.....	145	5.0
May	32	4.0	166	8.5	14	11.3	.....	.....	.....	.....	212	7.4
June	39	4.9	208	10.6	9	7.3	.....	.....	.....	.....	256	8.9
July	16	2.0	153	7.8	7	5.6	.....	.....	.....	.....	176	6.1
August	71	8.9	139	7.1	10	8.1	.....	.....	.....	.....	220	7.6
September	27	3.4	198	10.1	13	10.5	.....	.....	.....	.....	238	8.3
12 months	794	100.0	1,962	100.0	124	100.0	.....	.....	.....	.....	2,880	100.0

FOREIGN TRADE.

CLASSES OF EXPORTS.

For 15 or 20 years after the discovery of gold in California the exports from the Pacific coast customs districts consisted chiefly of precious metals; in 1856–1860 gold and silver coin and bullion formed 73 per cent of the total domestic exports, but, beginning with 1867–1870, the value of the domestic merchandise constituted more than one-half of the total domestic exports, and in 1906–1910 it reached 87 per cent of the total. The largest exports of gold and silver during the period shown in Table 15 were $14,000,000 a year in 1867–1870; in 1906–1910 the average was nearly $13,000,000. Throughout this bulletin figures applying to the entire group of "Pacific ports" include Alaska, since its annexation, and Hawaii, since 1899.

On the other hand, the value of exports of domestic commodities other than gold and silver increased from $3,000,000 a year in 1856–1860 to $85,000,000 in 1906–1910. Of these commodities grain and grain products formed more than half from 1871, or earlier, to 1900, inclusive. The increase in the value of other domestic commodities exported, however, was so large that in subsequent years grain and grain products constituted a small proportion of the total exports. In 1906–1910 grain and grain products formed 33 per cent of the exports of all domestic merchandise; packing-house products and live meat animals, 3 per cent; and other merchandise 64 per cent. In 1871–1875 grain and grain products constituted 72 per cent of the total exports of domestic merchandise; packing-house and live meat animals, 1 per cent; and all other merchandise 27 per cent. (Table 16.)

TABLE 15.—*Value of gold and silver and of domestic merchandise exported through Pacific ports, including Alaska and Hawaii, 1856–1910.*[a]

[All values are gold.]

Year ending June 30—	Gold and silver coin and bullion.		Merchandise (domestic).		Total domestic exports.
	Amount.	Per cent of total.	Amount.	Per cent of total.	
Average:					
1856–1860	$8,068,768	73.3	$2,932,389	26.7	$11,001,157
1861–1865	12,430,284	65.6	6,532,058	34.4	18,962,342
1867–1870	14,428,575	45.0	13,076,091	55.0	27,504,666
1871–1875	10,839,658	34.1	20,917,427	65.9	31,757,085
1876–1880	9,208,315	22.4	32,638,973	77.6	41,847,288
1881–1885	5,516,294	10.0	49,560,219	90.0	55,076,513
1886–1890	8,812,635	17.5	41,666,560	82.5	50,479,195
1891–1895	4,821,723	10.0	43,432,007	90.0	48,253,730
1896–1900	6,516,860	9.8	59,968,717	90.2	66,485,577
1901–1905	7,084,440	8.1	79,866,439	91.9	86,950,879
1906–1910	12,983,022	13.2	85,385,869	86.8	98,368,891

[a] Compiled from annual reports of the Foreign Commerce and Navigation of the United States. Not including Alaska and Hawaii prior to annexation.

TABLE 16.—*Value of domestic grain and grain products, packing-house products, and live meat animals exported through Pacific ports, including Alaska and Hawaii, 1871–1910.*[a]

[All values are gold.]

Year ending June 30—	Grain and grain products.		Packing-house products.		Live meat animals.		Other merchandise.		Total domestic merchandise.
	Value.	Per cent of total.	Value.	Per cent of total.	Value.	Per cent of total.	Value.	Per cent of total.	
Average:									
1871–1875....	$14,968,923	71.6	$165,584	0.8	$109,577	0.5	$5,673,343	27.1	$20,917,427
1876–1880....	22,636,810	69.4	443,481	1.4	93,450	.3	9,465,232	28.9	32,638,973
1881–1885....	35,231,318	71.1	454,044	.9	153,073	.3	13,721,784	27.7	49,560,219
1886–1890....	28,122,015	67.5	448,181	1.1	225,743	.5	12,870,621	30.9	41,666,560
1891–1895....	29,667,572	68.3	676,404	1.6	119,505	.3	12,968,526	29.8	43,432,007
1896–1900....	30,056,823	50.1	866,888	1.4	123,140	.2	28,921,866	48.3	59,968,717
1901–1905....	31,188,212	39.1	1,620,366	2.0	206,882	.3	46,850,979	58.6	79,866,439
1906–1910....	28,440,017	33.3	2,062,689	2.4	233,369	.3	54,649,794	64.0	85,385,869

[a] Compiled from annual reports of the Foreign Commerce and Navigation of the United States. Not including Hawaii prior to annexation.

THE BEGINNING OF A WHEAT SURPLUS.

Wheat growing in California developed with the large increase of population which followed the discovery of gold. During the first few years of the rush to the gold fields food supplies, including flour, were brought long distances. The year 1853 recorded the last extensive imports of wheat and flour. It is said that 81,322 sacks of wheat, of about 100 pounds average weight, and 99,600,000 pounds of flour were imported in that year.

California soon became self-supporting as a wheat grower and had a surplus for export. According to the census, the crop of 1849 was 17,328 bushels; that of 1859, 5,928,470 bushels; 10 years ater the census reported a production of nearly 17,000,000 bushels. As early as 1856, according to official figures, about 33,000 bushels of wheat and 115,000 barrels of flour were exported. From unofficial sources it is learned that in 1855 the exports of wheat was nearly four times that amount, and the flour was 50 per cent greater. An early shipment to New York was by the clipper ship *Adelaide*, which arrived at its destination October 14, 1855. The cargo included 10,801 sacks of wheat; 406 barrels, 422 sacks, and 128 casks of flour; 10,054 sacks of barley; and 134 bags and 402 bales of wool; 92 bales of sheepskins; 92 hides; 227 bales of rags, and 100 boxes of tea.[a]

During the fiscal years 1861–1865 the exports of wheat (including flour reduced to terms of grain) from Pacific coast ports, chiefly San Francisco, increased to an annual average of 2,000,000 bushels, and in 1867–1870 (no data are available for 1866) to 7,500,000 bushels. Exports of barley from Pacific coast ports were of small importance

[a] Alta California, November 15, 1855.

even as late as 1870 when 255,000 bushels were shipped to foreign countries from Pacific ports of the United States. (Table 17.)

TABLE 17.—*Exports of domestic wheat, wheat flour, and barley through Pacific ports, including Alaska, 1856–1870.*[a]

Year ending June 30—	Wheat.		Wheat flour.		Barley.	
	Bushels.	Value.	Bushels.	Value.	Bushels.	Value.
1856	33,158	$36,818	115,209	$1,075,574	.....	.....
1857	35,932	64,683	43,437	379,687	.....	.....
1858	6,929	12,637	8,176	97,203	.....	.....
1859	9	11	25,612	269,636	.....	.....
1860	948,220	449,057	60,579	395,373	.....	.....
1861	2,380,007	2,551,210	199,285	1,052,430	.....	.....
1862	1,540,070	1,696,612	103,722	614,061	.....	.....
1863	1,777,267	1,957,710	151,836	856,886	.....	.....
1864	1,793,766	1,707,946	171,155	911,059	.....	.....
1865	55,809	112,767	56,530	514,860	.....	.....
1866	(b)	(b)	(b)	(b)	(b)	(b)
1867	4,891,622	5,403,002	295,996	1,632,534	.....	.....
1868	5,552,450	7,550,630	294,654	1,861,602	9,809	$10,977
1869	5,589,747	6,290,608	415,553	2,209,796	55,440	45,385
1870	7,964,822	8,245,090	361,141	1,743,832	255,312	140,140
Average:						
1856–1860	204,850	112,641	50,603	443,495	.....	.....
1861–1865	1,509,384	1,605,249	136,506	789,859	.....	.....
1867–1870	5,999,660	6,872,332	341,836	1,861,941	80,140	49,126

[a] Compiled from annual reports of the Foreign Commerce and Navigation of the United States. Not including Alaska prior to annexation.
[b] No data.

GENERAL TREND OF EXPORTS OF WHEAT AND BARLEY.

The total exports of wheat, including flour, from Pacific ports of the United States increased from 13,000,000 bushels in 1871–1875 to 29,000,000 bushels in 1906–1910. Throughout the 40 years covered by Table 18, from over one-fourth to less than one-fifth of the total exports of these articles from the United States were from the western coast. In 1871–1875 about 22 per cent of the wheat and flour exported from the United States went through Pacific ports and in 1906–1910, 24 per cent. The exports of barley from the Pacific coast increased from 232,000 bushels in 1871–1875 to 573,000 in 1881–1885, to 2,526,000 in 1891–1895, and to 4,734,000 in 1906–1910. Exports of barley have been irregular. In 1871–1875 the Pacific coast handled 88 per cent of the total exports of barley, including malt; in the next five years, only 27 per cent; in 1881–1885, 96 per cent; in 1896–1900 the figure dropped to 45 per cent, but was raised in 1901–1905 to 81 per cent of the exports from all United States ports.

TABLE 18.—*Exports of domestic wheat and barley from the United States and through Pacific ports, including Alaska and Hawaii, 1871–1910.*[a]

Year ending June 30—	Wheat, including wheat flour.[b]			Barley, including malt.[c]		
	United States.	Pacific ports.		United States.	Pacific ports.	
		Amount.	Per cent of United States.		Amount.	Per cent of United States.
Average:	*Bushels.*	*Bushels.*	*Per cent.*	*Bushels.*	*Bushels.*	*Per cent.*
1871–1875	61,601,560	13,265,524	21.5	264,182	231,618	87.7
1876–1880	110,948,586	19,658,061	17.7	1,455,005	395,196	27.2
1881–1885	140,025,953	36,369,837	26.0	598,380	573,473	95.8
1886–1890	113,205,463	32,094,672	28.4	1,055,790	942,947	89.3
1891–1895	166,571,122	36,052,217	21.6	2,821,946	2,525,921	89.5
1896–1900	179,518,025	36,567,384	20.4	13,274,640	5,975,420	45.0
1901–1905	163,701,742	37,312,285	22.8	9,365,472	7,558,898	80.7
1906–1910	121,797,177	29,172,327	24.0	8,576,531	4,734,124	55.2
1906	97,609,007	30,566,553	31.3	18,530,745	2,872,520	15.5
1907	146,700,425	35,308,310	24.1	8,615,674	6,692,851	77.7
1908	163,043,669	42,489,081	26.1	4,553,615	4,007,531	88.0
1909	114,268,468	19,173,283	16.8	6,728,784	6,168,248	91.7
1910	87,364,318	18,324,408	21.0	4,453,836	3,929,468	88.2

[a] Compiled from annual reports of the Foreign Commerce and Navigation of the United States. Not including Alaska and Hawaii prior to annexation.
[b] Flour reduced to terms of wheat by assuming 1 barrel of flour to be the product of 5 bushels of wheat prior to 1880, and 4½ bushels of wheat in 1880 and subsequent years.
[c] Malt reduced to terms of barley by assuming 1.1 bushels of malt to be the product of 1 bushel of barley.

LEADING ARTICLES AND PORTS COMPARED.

The value of the leading agricultural exports from each leading Pacific port and each group of smaller ones, including Alaska and Hawaii, is shown in Table 19. An examination of this table will disclose the relative importance of the different ports in their exports of these products. A noteworthy feature of this statement is the great increase in exports of raw cotton from San Francisco, Portland, and Puget Sound.

The decline of San Francisco and the growth of Portland and Puget Sound as wheat ports appear in Table 20. Barley exports from San Francisco, however, increased from a yearly average of 200,000 bushels in 1871–1875 to 4,000,000 bushels in 1906–1910.

TABLE 19.—*Value of domestic grain and grain products and of all domestic merchandise exported from the Pacific ports, including Alaska and Hawaii, 1871–1910, by customs districts.*[a]

[All values are gold.]

Customs district and article.	Average for years ending June 30—				
	1871–1880	1881–1890	1891–1900	1901–1905	1906–1910
San Francisco.					
Grain and grain products:					
Barley	$194,916	$426,661	$1,899,406	$3,115,653	$2,642,854
Corn	32,659	38,799	87,839	65,261	13,638
Oats	26,982	47,581	32,256	28,017	1,241
Rye	5,165	14,200	46,851	83,921	553
Wheat	13,208,149	20,416,983	12,089,730	5,599,990	281,621

[a] Compiled from annual reports of the Foreign Commerce and Navigation of the United States. Not including Alaska and Hawaii prior to annexation.

TABLE 19.—*Value of domestic grain and grain products and of all domestic merchandise exported through Pacific ports, including Alaska and Hawaii, 1871–1910, by customs districts*—Continued.

Customs district and article.	Average for years ending June 30—				
	1871–1880	1881–1890	1891–1900	1901–1905	1906–1910
San Francisco—Continued.					
Grain and grain products—Continued.					
Other small grain and pulse	$34,880	$17,726	----------	----------	----------
Bran, middlings, and mill feed	63	4,579	$41,082	$4,014	$2,312
Bread and biscuit	53,268	105,121	105,250	54,378	28,188
Breadstuff preparations, other	29,532	119,967	175,185	136,653	172,322
Malt	5,753	32,748	68,218	84,077	40,653
Corn meal	1,659	617	----------	461	403
Oatmeal	----------	2,660	1,164	----------	679
Rye flour	60	18	----------	5	7
Wheat flour	2,303,861	4,368,335	3,805,809	3,144,584	1,274,202
Other grain and grain products	----------	----------	35,305	33,080	3,522
Total grain and grain products	15,896,947	25,595,995	18,388,095	12,350,094	4,462,195
Other important farm products:					
Cotton	981	928	844,839	2,567,867	3,619,380
Fruit	129,749	488,817	1,340,010	2,429,775	2,974,515
Ginseng	364,836	674,479	606,794	616,204	684,906
Hay	15,978	70,634	110,728	59,375	66,072
Milk	20,599	36,847	67,971	255,929	213,001
Packing-house products	266,574	385,515	577,316	898,674	987,668
Timber and lumber	370,951	542,059	564,842	900,664	816,457
All other merchandise	5,788,929	8,845,383	11,315,213	16,860,026	18,378,916
Total merchandise	22,855,544	36,640,657	33,815,808	36,938,608	32,203,110
Willamette (Portland).					
Grain and grain products:					
Barley	21	122	63,036	461,007	319,825
Buckwheat	----------	----------	----------	----------	257
Corn	----------	----------	111	----------	4
Oats	2,715	299	5,906	110,172	25
Rye	----------	----------	----------	826	----------
Wheat	1,666,696	3,090,621	4,945,741	5,148,510	6,581,492
Other small grain and pulse	12	----------	----------	----------	----------
Bran, middlings, and mill feed	----------	----------	443	1,928	33
Bread and biscuit	2,203	897	1,373	210	1,312
Breadstuff preparations, other	1,098	2,456	7,667	8,211	395
Malt	----------	----------	40	740	1,227
Corn meal	40	11	404	1	3
Oatmeal	----------	23	----------	10	161
Rye flour	2	----------	4	----------	----------
Wheat flour	408,015	1,403,883	1,631,343	2,518,162	2,917,476
All other grain and grain products	----------	----------	72	24	6
Total grain and grain products	2,080,802	4,498,312	6,656,140	8,249,801	9,822,216
Other important farm products:					
Cotton	----------	----------	26,232	393,056	85,912
Fruit	3,624	2,724	3,966	12,347	2,854
Ginseng	----------	----------	----------	----------	----------
Hay	118	2	126	58,453	116
Milk	9	26	49	1,012	4,020
Packing-house products	13,898	2,730	3,493	23,289	8,049
Timber and lumber	9,244	13,256	60,428	515,114	1,260,912
All other merchandise	74,889	29,997	95,850	528,292	297,698
Total merchandise	2,182,584	4,547,047	6,846,284	9,781,364	11,481,777
Puget Sound.					
Grain and grain products:					
Barley	1,580	1,726	4,087	290,787	96,254
Buckwheat	----------	----------	8	315	166
Corn	----------	80	7,255	15,503	61,569
Oats	5,825	8,301	41,765	391,319	268,476
Rye	1	3	284	448	862
Wheat	2,918	457,608	2,947,194	4,576,452	6,625,090
Other small grain and pulse	4,281	338	----------	----------	----------
Bran, middlings, and mill feed	----------	[a] 174	20,956	80,607	51,481
Bread and biscuit	226	4,440	4,087	3,059	3,337
Breadstuff preparations, other	156	20,636	42,686	34,888	24,595

[a] "All other" Pacific ports.

TABLE 19.—*Value of domestic grain and grain products and of all domestic merchandise exported through Pacific ports, including Alaska and Hawaii, 1871–1910, by customs districts*—Continued.

Customs district and article.	Average for years ending June 30—				
	1871–1880	1881–1890	1891–1900	1901–1905	1906–1910
Puget Sound—Continued.					
Grain and grain products—Continued.					
Distillers' and brewers' grains and malt sprouts				$327	$47
Malt		$9	$3,527	16,323	14,450
Corn meal	$12	137	1,031	3,250	4,555
Oatmeal		302	37	743	1,046
Rye flour		22	256	566	770
Wheat flour	40,694	136,112	1,359,779	4,989,014	6,946,605
All other grain and grain products			4,501	1,757	4,209
Total grain and grain products	55,693	629,888	4,437,453	10,405,358	14,103,512
Other important farm products:					
Cotton		3	1,016,478	4,808,379	5,164,377
Fruit	1,716	10,486	71,199	200,433	494,987
Ginseng			12,400	5,281	439
Hay	3,588	1,860	41,507	246,219	244,503
Milk		1,351	50,631	203,939	321,106
Packing-house products	8,120	57,798	177,691	575,903	940,736
Timber and lumber	282,316	885,921	1,307,535	2,606,682	3,612,400
All other merchandise	140,151	410,583	2,576,197	11,455,276	13,444,515
Total merchandise	491,584	1,997,890	9,691,091	30,507,470	38,326,575
Los Angeles,[a] *San Diego, and Humboldt.*					
Grain and grain products:					
Barley	2,096	1,358	44,028	26,364	1,577
Corn	6,375	917	772	698	253
Oats		90	125	83	98
Rye		2	4	11	7
Wheat	16,192	161,045	106,800	6,878	3,708
Other small grain and pulse	51	65			
Bran, middlings, and mill feed			330	204	182
Bread and biscuit	43	218	1,042	1,900	2,151
Breadstuff preparations, other	2	537	553	620	1,664
Malt			6	59	
Corn meal	8	110	28	53	102
Oat meal		97	171	169	173
Rye flour		1	1		
Wheat flour	644	2,151	6,741	2,553	5,089
All other grain and grain products			88	19	13,263
Total grain and grain products	25,411	166,591	160,689	39,611	28,267
Other important farm products:					
Cotton			299,588	113,161	
Fruit	10	3,785	2,387	3,363	15,856
Hay	13	1,575	4,048	7,023	11,527
Milk		327	583	1,103	3,562
Packing-house products	18	3,692	10,620	13,577	21,654
Timber and lumber	125	122,242	159,270	357,790	933,295
All other merchandise	36,884	149,067	175,826	195,395	565,000
Total merchandise	62,461	447,279	813,011	731,023	1,579,161
Yaquina and Southern Oregon.					
Grain and grain products:					
Barley		6		2,514	
Oats	124				
Wheat	623,671	624,805	193,684	33,456	
Other small grain and pulse	29	29			
Bread and biscuit	148				
Breadstuff preparations, other	1	2			
Corn meal	2				
Wheat flour	115,424	160,601	23,544	5,539	
Total grain and grain products	739,399	785,443	217,228	41,509	

[a] Given under "Wilmington, Cal.," prior to 1902. From that date Wilmington was included under "Los Angeles."

TABLE 19.—*Value of domestic grain and grain products and of all domestic merchandise exported through Pacific ports, including Alaska and Hawaii, 1871–1910, by customs districts*—Continued.

Customs district and article.	Average for years ending June 30—				
	1871–1880	1881–1890	1891–1900	1901–1905	1906–1910
Yaquina and Southern Oregon—Continued.					
Other important farm products:					
Fruit	$440	$776	$47	$8	.....
Hay	24	.....	.....	.....	.....
Packing-house products	12,156	19	75	.....	.....
Timber and lumber	13,406	23,336	40,160	50,477	$189,576
All other merchandise	392,449	1,149,668	205,514	7,300	4,185
Total merchandise	1,157,874	1,959,242	463,024	99,294	193,761
Alaska and Hawaii.					
Grain and grain products:					
Barley	817	24	213	147	55
Corn	.....	.....	47	424	148
Oats	2	1	336	26,922	7,313
Wheat	.....	5	4	394	38
Other small grain and pulse	260	.....	.....	.....	.....
Bran, middlings, and mill feed	.....	.....	92	1,638	130
Bread and biscuit	14	7	100	2,831	2,180
Breadstuff preparations, other	112	9	364	21,730	1,369
Malt	.....	.....	.....	1,569	2,234
Distillers' and brewers' grains and malt sprouts	.....	.....	.....	.....	48
Corn meal	40	1	14	998	316
Oatmeal	.....	.....	6	461	291
Rye flour	.....	.....	.....	64	48
Wheat flour	3,372	388	1,271	43,909	9,566
All other grain and grain products	.....	.....	145	754	91
Total grain and grain products	4,617	435	2,592	101,841	23,827
Other important farm products:					
Fruit	1,067	31	1,457	71,426	53,665
Hay	.....	.....	298	142,996	73,089
Milk	150	38	841	31,888	5,613
Packing-house products	3,766	1,358	2,451	108,923	104,582
Timber and lumber	89	.....	2,542	13,136	23,790
All other merchandise	18,464	19,412	60,964	1,338,470	1,316,919
Total merchandise	28,153	21,274	71,145	1,808,680	1,601,485
Total Pacific ports.					
Grain and grain products:					
Barley	199,430	429,897	2,010,770	3,896,472	3,060,565
Buckwheat	.....	.....	8	315	423
Corn	39,034	39,796	96,024	81,886	75,612
Oats	35,648	56,272	80,388	556,513	277,153
Rye	5,166	14,205	47,139	85,206	1,422
Wheat	15,517,626	24,751,067	20,283,153	15,365,680	13,491,949
Other small grain and pulse	39,513	18,158	.....	.....	.....
Bran, middlings, and mill feed	63	4,753	62,903	88,391	54,138
Bread and biscuit	55,902	110,683	111,852	62,378	37,168
Breadstuff preparations, other	30,901	143,607	226,455	202,102	200,345
Distillers' and brewers' grains and malt sprouts	.....	.....	.....	327	95
Malt	5,753	32,757	71,791	102,768	58,564
Corn meal	1,761	876	1,477	4,763	5,379
Oatmeal	.....	3,082	1,378	1,383	2,350
Rye flour	62	41	261	635	825
Wheat flour	2,872,010	6,071,470	6,828,487	10,703,761	11,152,938
Other grain and grain products	.....	.....	40,111	35,634	21,091
Total grain and grain products	18,802,869	31,676,664	29,862,197	31,188,214	28,440,017
Other important farm products:					
Cotton	981	931	2,187,137	7,882,463	8,869,669
Fruit	136,606	506,619	1,419,066	2,717,352	3,541,877
Ginseng	364,836	674,479	619,194	621,485	685,345
Hay	19,721	74,071	156,707	514,066	395,307
Milk	20,758	38,589	120,075	493,871	547,302
Packing-house products	304,532	451,112	771,646	1,620,366	2,062,689
Timber and lumber	676,131	1,586,814	2,134,777	4,443,863	6,836,430
All other merchandise	6,451,766	10,604,110	14,429,564	30,384,759	34,007,233
Total merchandise	26,778,200	45,613,389	51,700,363	79,866,439	85,385,869

TABLE 20.—*Quantity of domestic wheat, wheat flour, barley, and malt exported through Pacific ports, including Alaska and Hawaii, 1871–1910.*[a]

Article, and year ending June 30—	Customs district.				
	San Francisco.	Willamette (Portland).	Puget Sound.	Other.	Total Pacific.
Wheat.	*Bushels.*	*Bushels.*	*Bushels.*	*Bushels.*	*Bushels.*
1871	5,903,427	275,661	.....	87,030	6,266,118
1872	2,263,085	281,326	44	74,635	2,619,090
1873	15,996,162	711,762	381	170,828	16,879,133
1874	11,514,578	1,289,282	1,260	391,555	13,196,675
1875	14,469,958	1,326,979	4,115	877,525	16,678,577
1876	9,693,231	1,785,777	5,323	1,104,680	12,589,011
1877	16,840,184	1,820,475	4,178	701,134	19,365,971
1878	6,627,337	2,699,015	5,346	972,801	10,304,499
1879	16,723,302	2,069,919	6,959	794,096	19,594,276
1880	17,801,700	2,773,195	1,472	690,047	21,266,414
1881	22,029,331	2,012,085	3,857	658,501	24,703,774
1882	36,169,497	4,734,565	76,833	2,023,591	43,004,486
1883	24,319,830	2,230,674	308,628	854,187	27,713,319
1884	18,729,733	2,871,670	87,202	1,077,593	22,766,198
1885	26,871,453	4,678,296	19,049	828,249	32,397,047
1886	19,044,030	6,037,165	272,885	720,382	26,074,462
1887	19,374,520	4,707,244	9,263	766,282	24,857,309
1888	14,546,335	4,706,730	839,392	647,215	20,739,672
1889	22,658,730	3,472,589	2,297,446	1,039,955	29,468,720
1890	22,824,416	2,435,298	1,735,931	461,263	27,456,908
1891	23,232,719	4,172,768	3,674,736	793,159	31,873,382
1892	21,324,631	5,072,005	4,187,229	984,286	31,568,151
1893	17,620,762	5,004,202	3,783,781	217,349	26,626,094
1894	15,023,191	5,620,704	4,211,722	385,487	25,241,104
1895	15,993,717	8,989,443	4,002,015	155,641	29,140,816
1896	17,031,613	5,494,297	2,738,629	340,355	25,604,894
1897	16,460,629	6,154,970	2,456,931	45,462	25,117,992
1898	16,178,521	13,224,043	8,023,915	787,188	38,213,667
1899	3,794,890	9,945,183	5,409,017	52,017	19,201,107
1900	10,702,902	8,955,544	3,566,719	23,145	23,248,310
1901	12,262,796	13,044,008	8,619,384	17,113	34,943,301
1902	16,017,169	12,554,151	13,854,145	155,699	42,581,164
1903	8,549,954	8,657,931	8,928,909	105,429	26,242,223
1904	1,774,431	3,476,453	1,725,073	40,241	7,016,198
1905	1,315,477	1,474,147	1,246,616	1,321	4,037,561
1906	413,963	5,658,103	8,352,911	12,582	14,437,559
1907	413,329	7,198,844	6,012,732	47	13,624,952
1908	716,452	13,411,581	14,706,237	339	28,834,609
1909	23,049	6,350,033	4,630,174	57	11,003,313
1910	42,291	5,770,319	4,856,691	5,170	10,674,471
Average:					
1871–1875	10,029,442	777,002	1,160	320,315	11,127,919
1876–1880	13,537,151	2,229,676	4,655	852,552	16,624,034
1881–1885	25,623,969	3,305,458	99,114	1,088,424	30,116,965
1886–1890	19,689,606	4,271,805	1,030,983	727,020	25,719,414
1891–1895	18,639,004	5,771,824	3,971,897	507,184	28,889,909
1896–1900	12,833,711	8,754,807	4,439,042	249,634	26,277,194
1901–1905	8,183,965	7,841,338	6,874,825	63,961	22,964,089
1906–1910	321,817	7,677,776	7,711,749	3,639	15,714,981
Wheat flour.	*Barrels.*	*Barrels.*	*Barrels.*	*Barrels.*	*Barrels.*
1871	198,223	20,265	598	5,058	224,144
1872	267,083	21,592	1,109	.....	289,784
1873	257,765	41,366	700	2,415	302,246
1874	598,240	66,259	4,685	35,791	704,975
1875	452,984	109,994	9,966	43,512	616,456
1876	424,928	82,631	10,667	39,530	557,756
1877	501,653	94,862	14,243	42,160	652,918
1878	423,551	47,544	12,658	4,158	487,911
1879	528,105	182,269	9,419	33,641	753,434
1880	467,170	146,828	5,140	27,537	646,675
1881	650,758	309,043	6,538	10,427	976,766
1882	849,452	380,048	19,250	124,348	1,373,098
1883	1,068,339	296,036	30,533	48,959	1,443,867
1884	1,234,745	331,894	29,948	25,166	1,621,753
1885	1,298,043	188,210	43,444	2,454	1,532,151
1886	1,012,219	316,568	44,461	23,187	1,396,435
1887	942,406	410,547	31,863	17,889	1,402,705
1888	821,384	361,035	66,036	19,053	1,267,508
1889	836,645	491,711	20,345	63,199	1,411,900
1890	1,139,863	387,930	38,167	39,113	1,605,073

[a] Compiled from annual reports of the Foreign Commerce and Navigation of the United States. Not including Alaska and Hawaii prior to annexation.

TABLE 20.—*Quantity of domestic wheat, wheat flour, barley, and malt exported through Pacific ports, including Alaska and Hawaii, 1871–1910*—Continued.

Article, and year ending June 30—	Customs district.				
	San Francisco.	Willamette (Portland).	Puget Sound.	Other.	Total Pacific.
Wheat flour—Continued.	*Barrels.*	*Barrels.*	*Barrels.*	*Barrels.*	*Barrels.*
1891	1,181,872	456,974	172,679	38,356	1,849,881
1892	1,056,057	338,226	103,596	9,229	1,507,108
1893	1,084,561	388,776	174,119	186	1,647,642
1894	784,672	300,585	277,173	429	1,362,859
1895	878,701	339,048	372,500	380	1,590,629
1896	954,500	560,233	402,489	353	1,917,575
1897	1,108,502	525,152	508,620	8,294	2,150,568
1898	802,223	638,172	615,155	342	2,055,892
1899	938,153	752,101	688,535	14,026	2,392,815
1900	1,069,966	792,416	1,037,583	16,730	2,916,695
1901	966,808	692,573	1,076,932	14,912	2,751,225
1902	1,109,599	630,131	1,295,028	24,408	3,059,166
1903	872,941	808,605	1,986,056	2,742	3,670,344
1904	771,868	917,191	1,714,864	1,840	3,405,763
1905	676,636	766,858	1,609,173	3,275	3,055,942
1906	466,740	1,013,975	2,099,601	3,905	3,584,221
1907	393,220	1,239,704	3,182,614	2,986	4,818,524
1908	261,623	858,845	1,911,966	1,893	3,034,327
1909	205,172	552,423	1,055,952	2,002	1,815,549
1910	182,838	217,469	1,296,681	2,998	1,699,986
Average:					
1871–1875	354,859	51,895	3,412	17,355	427,521
1876–1880	469,081	110,827	10,425	29,406	619,739
1881–1885	1,020,267	301,046	25,943	42,271	1,389,527
1886–1890	950,503	393,558	40,174	32,487	1,416,724
1891–1895	997,173	364,722	220,013	9,716	1,591,624
1896–1900	974,669	653,615	650,476	7,949	2,286,709
1901–1905	879,570	763,072	1,536,411	9,435	3,188,488
1906–1910	301,919	776,483	1,909,363	2,756	2,990,521
Barley.	*Bushels.*	*Bushels.*	*Bushels.*	*Bushels.*	*Bushels.*
1871	287,619	.....	34	.....	287,653
1872	33,010	.....	373	.....	33,383
1873	439,564	.....	770	.....	440,334
1874	306,645	27	5,892	.....	312,564
1875	79,419	.....	4,696	40	84,155
1876	256,094	18	4,869	35,000	295,981
1877	195,229	.....	615	5,641	201,485
1878	149,944	160	2,350	688	153,142
1879	597,262	42	4,505	3,269	605,078
1880	712,631	.....	945	1,564	715,140
1881	868,451	979	.....	240	869,670
1882	194,635	775	3,473	293	199,176
1883	413,528	.....	9,243	90	422,861
1884	639,141	50	1,402	11	640,604
1885	627,757	.....	967	.....	628,724
1886	246,511	140	4,495	21	251,167
1887	1,132,764	.....	5,602	1,872	1,140,238
1888	531,030	.....	.....	13,231	544,261
1889	1,433,307	.....	1,050	5,127	1,439,484
1890	1,044,755	.....	60	3,576	1,048,391
1891	522,192	.....	418	6,565	529,175
1892	2,027,789	.....	.....	342	2,028,131
1893	2,986,281	.....	.....	103	2,986,384
1894	4,631,846	14,610	19,194	461,418	5,127,068
1895	1,348,128	142,775	15,180	2,785	1,508,868
1896	4,561,805	91,080	19,942	94,237	4,767,064
1897	7,630,287	8,501	5,273	272,371	7,916,432
1898	6,244,703	333	6,999	256,863	6,508,898
1899	961,894	243,914	16,493	531	1,222,832
1900	8,220,646	789,113	20,571	7,117	9,037,447
1901	4,117,718	690,090	121,679	8,940	4,938,427
1902	7,831,832	503,029	109,431	33,557	8,477,849
1903	6,379,540	1,107,150	293,250	6,302	7,786,242
1904	8,038,808	1,320,969	971,037	223,525	10,554,339
1905	3,301,142	857,202	1,206,348	15,218	5,379,910
1906	2,196,455	314,655	277,214	2,992	2,791,316
1907	6,598,342	.....	3,117	5,057	6,606,516
1908	2,916,250	795,275	244,210	3,211	3,958,946
1909	5,169,451	822,510	102,968	866	6,095,795
1910	3,326,461	445,940	112,118	562	3,885,081

TABLE 20.—*Quantity of domestic wheat, wheat flour, barley, and malt exported through Pacific ports, including Alaska and Hawaii, 1871–1910*—Continued.

Article, and year ending June 30—	Customs district.				
	San Francisco.	Willamette (Portland).	Puget Sound.	Other.	Total Pacific.
Barley—Continued.					
Average:	*Bushels.*	*Bushels.*	*Bushels.*	*Bushels.*	*Bushels.*
1871–1875	229,251	5	2,353	9	231,618
1876–1880	382,232	44	2,657	9,232	394,165
1881–1885	548,702	361	3,017	127	552,207
1886–1890	877,673	28	2,241	4,766	884,708
1891–1895	2,303,247	31,477	6,958	94,243	2,435,925
1896–1900	5,523,867	226,588	13,856	126,224	5,890,535
1901–1905	5,933,808	895,688	540,349	57,508	7,427,353
1906–1910	4,041,392	475,676	147,925	2,538	4,667,531
Malt.					
1871–1879					
1880	5,672				5,672
1881	8,246				8,246
1882	12,882				12,882
1883	22,103				22,103
1884	38,243				38,243
1885	35,493				35,493
1886	44,988				44,988
1887	41,039				41,039
1888	80,281				80,281
1889	72,299		136		72,435
1890	81,574				81,574
1891	95,950				95,950
1892	93,244	346			93,590
1893	94,084	153	2,484		96,721
1894	82,335		109	13	82,457
1895	126,262				126,262
1896	82,669		118		82,787
1897	88,271				88,271
1898	81,625		10,511	10	92,146
1899	84,746		18,144		102,890
1900	84,500		16,279		100,779
1901	141,388		15,714		157,102
1902	146,192		9,109	96	155,397
1903	120,635		25,025	231	145,891
1904	103,500		30,669	1,449	135,618
1905	82,767	5,955	31,772	8,994	129,488
1906	39,023	3,185	44,020	3,096	89,324
1907	39,814	6,161	46,583	2,411	94,969
1908	46,312		4,653	2,479	53,444
1909	70,279		5,048	4,371	79,698
1910	45,508		2,458	860	48,826
Average:					
1876–1880	[a] 5,672				[a] 5,672
1881–1885	23,393				23,393
1886–1890	64,036		27		64,063
1891–1895	98,375	100	519	2	98,996
1896–1900	84,362		9,010	3	93,375
1901–1905	118,896	1,191	22,458	2,154	144,699
1906–1910	48,187	1,869	20,552	2,643	73,251

[a] 1880 only.

BRITISH IMPORTS.

The relative importance of the Pacific coast in the British barley and wheat trade is indicated in Table 21. During the 13 years 1896–1908, inclusive, 9 or 10 per cent of the barley imported into the United Kingdom came from the Pacific coast, while from 2 to 6 per cent came from other ports of the United States. The importance of the Pacific coast region as a source of England's wheat supply declined considerably from 1881 to 1908. In 1881–1885, 21 per cent of the imports of wheat into the United Kingdom was from United States Pacific ports and in 1906 only 6 per cent.

TABLE 21.—*Imports of barley, wheat, and wheat flour into the United Kingdom from Pacific coast ports of the United States, compared with imports from other United States ports and from all sources, 1876–1908.*[a]

Article and calendar year.	United States.				Other countries.		Total bushels.
	Pacific coast ports.		Other United States ports.				
	Bushels.	Per cent of total.	Bushels.	Per cent of total.	Bushels.	Per cent of total.	
Barley.							
Average:							
1892–1895	2,407,730	4.5	527,673	1.0	50,720,853	94.5	53,656,256
1896–1900	4,126,920	8.8	2,971,766	6.4	39,632,098	84.8	46,730,784
1901–1905	5,780,674	10.1	943,076	1.7	50,307,273	88.2	57,031,023
1906–1908	3,976,778	8.9	1,875,066	4.2	39,025,405	86.9	44,877,249
Wheat.							
Average:							
1876–1880	12,519,396	12.7	40,495,263	41.2	45,352,947	46.1	98,367,606
1881–1885	22,489,412	20.5	31,368,896	28.5	56,025,763	51.0	109,884,071
1886–1890	19,501,626	18.7	19,337,180	18.5	65,517,476	62.8	104,356,282
1891–1895	17,404,843	13.4	35,640,937	27.4	77,080,650	59.2	130,126,430
1896–1900	16,301,936	13.1	47,311,234	38.0	60,818,703	48.9	124,431,873
1901–1905	11,468,575	7.1	33,952,299	20.9	116,698,020	72.0	162,118,894
1906–1908	10,404,178	5.9	33,345,013	19.1	131,261,017	75.0	175,010,208
Wheat flour.							
Average:	*Barrels.*		*Barrels.*		*Barrels.*		*Barrels.*
1876–1880	257,939	5.3	2,192,780	45.2	2,400,912	49.5	4,851,631
1881–1885	867,828	10.6	4,713,066	57.5	2,610,219	31.9	8,191,113
1886–1890	724,357	7.9	6,237,223	68.1	2,193,695	24.0	9,155,275
1891–1895	416,662	3.8	8,545,802	77.5	2,068,237	18.7	11,030,701
1896–1900	290,788	2.4	9,274,591	76.9	2,493,114	20.7	12,058,493
1901–1905	116,733	1.1	7,283,125	71.4	2,799,213	27.5	10,199,071
1906–1908	62,286	.8	5,445,457	70.7	2,198,452	28.5	7,706,195

[a] Compiled from Annual Statements of the Trade of the United Kingdom with Foreign Countries and British Possessions. Data for barley not given prior to 1892.

SEASONAL MOVEMENT IN FOREIGN TRADE.

Exports of barley from the Pacific coast during the period covered by Table 22 were made mostly during the months of September, October, and November; as a rule, August and December were also months of heavy movement. Taking an average for 1901–1909, inclusive, 51.5 per cent of the barley exported from this coast was shipped in the three fall months, and in the five months ending December the exports averaged 72.9 per cent of the total for the year. From other ports of the United States the export movement during these nine years did not become heavy, on an average, until October, and the large shipments lasted throughout February. In these five months 67.2 per cent of the total exports in the Atlantic, Gulf, and Lake regions were moved.

Annual exports of wheat from Pacific ports during 1901–1909 were greatest, on an average, in the five months beginning with October, during which 67.6 per cent of the total exports were made. The heaviest movement from the other ports of the United States commenced earlier in the year. During the five months beginning August their exports of wheat were 58.2 per cent of the year's total.

TABLE 22.—*Average monthly exports of domestic barley, wheat, and wheat flour through the Pacific (including Alaska and Hawaii) and other ports of the United States, 1901–1909.*[a]

Article and month.	Average for 1901–1909.								
	Quantity exported.			Percentage of year's total exported each month.			Percentage of month's total exported from each group of ports.		
	Pacific (including Alaska and Hawaii).	Other.	Total.	Pacific (including Alaska and Hawaii).	Other.	Total.	Pacific (including Alaska and Hawaii).	Other.	Total.
Barley.	*Bushels.*	*Bushels.*	*Bushels.*	*Per ct.*	*Per ct.*	*Per ct.*	*Per ct.*	*Per ct.*	*Per ct.*
January	509,904	292,811	802,715	8.2	11.6	9.2	63.5	36.5	100.0
February	245,653	340,093	585,746	4.0	13.5	6.7	41.9	58.1	100.0
March	357,258	233,417	590,675	5.8	9.3	6.8	60.5	39.5	100.0
April	225,579	160,726	386,305	3.6	6.4	4.4	58.4	41.6	100.0
May	112,809	133,643	246,452	1.8	5.3	2.8	45.8	54.2	100.0
June	103,616	75,141	178,757	1.7	3.0	2.1	58.0	42.0	100.0
July	121,499	25,042	146,541	2.0	1.0	1.7	82.9	17.1	100.0
August	650,373	72,732	723,105	10.5	2.9	8.3	89.9	10.1	100.0
September	1,094,791	124,094	1,218,885	17.6	4.9	14.0	89.8	10.2	100.0
October	1,176,029	273,156	1,449,185	18.9	10.8	16.6	81.2	18.8	100.0
November	929,713	417,398	1,347,111	15.0	16.5	15.4	69.0	31.0	100.0
December	677,086	372,919	1,050,005	10.9	14.8	12.0	64.5	35.5	100.0
The year	6,204,310	2,521,172	8,725,482	100.0	100.0	100.0	71.1	28.9	100.0
Wheat.									
January	2,734,687	3,881,063	6,615,750	14.0	6.6	8.4	41.3	58.7	100.0
February	2,249,992	2,577,565	4,827,557	11.6	4.4	6.2	46.6	53.4	100.0
March	1,586,576	2,558,014	4,144,590	8.1	4.3	5.3	38.3	61.7	100.0
April	1,339,053	3,413,980	4,753,033	6.9	5.8	6.1	28.2	71.8	100.0
May	1,008,572	4,528,680	5,537,252	5.2	7.7	7.1	18.2	81.8	100.0
June	683,139	3,312,582	3,995,721	3.5	5.6	5.1	17.1	82.9	100.0
July	452,328	4,323,693	4,776,021	2.3	7.4	6.1	9.5	90.5	100.0
August	253,209	8,828,992	9,082,201	1.3	15.0	11.6	2.8	97.2	100.0
September	990,472	8,271,015	9,261,487	5.1	14.1	11.8	10.7	89.3	100.0
October	2,739,499	7,351,031	10,090,530	14.1	12.5	12.9	27.1	72.9	100.0
November	2,444,787	5,551,973	7,996,760	12.6	9.4	10.2	30.6	69.4	100.0
December	2,987,211	4,249,274	7,236,485	15.3	7.2	9.2	41.3	58.7	100.0
The year	19,469,525	58,847,862	78,317,387	100.0	100.0	100.0	24.9	75.1	100.0
Wheat flour.									
January	249,091	1,055,263	1,304,354	7.8	9.3	9.0	19.1	80.9	100.0
February	260,164	864,931	1,125,095	8.1	7.6	7.7	23.1	76.9	100.0
March	233,975	893,899	1,127,874	7.3	7.9	7.7	20.7	79.3	100.0
April	247,500	968,266	1,215,766	7.7	8.5	8.3	20.4	79.6	100.0
May	245,810	878,501	1,124,311	7.7	7.7	7.7	21.9	78.1	100.0
June	229,545	819,357	1,048,902	7.2	7.2	7.2	21.9	78.1	100.0
July	189,217	730,715	919,932	5.9	6.4	6.3	20.6	79.4	100.0
August	225,536	832,276	1,057,812	7.0	7.3	7.3	21.3	78.7	100.0
September	277,780	1,056,970	1,334,750	8.7	9.3	9.2	20.8	79.2	100.0
October	348,030	1,093,317	1,441,347	10.9	9.6	9.9	24.1	75.9	100.0
November	351,876	1,031,832	1,383,708	11.0	9.1	9.5	25.4	74.6	100.0
December	344,787	1,148,773	1,493,560	10.7	10.1	10.2	23.1	76.9	100.0
The year	3,203,311	11,374,100	14,577,411	100.0	100.0	100.0	22.0	78.0	100.0

[a] Monthly bulletins of the Bureau of Statistics, Department of Commerce and Labor, showing exports from "principal customs districts." These exports comprised in the calendar years 1901–1909 97.4 per cent of the barley, 99.1 per cent of the wheat, and 99.1 per cent of the wheat flour exported from the United States.

MONTHLY MARKETINGS AND EXPORTS.

The percentage of the wheat crop marketed each month and the percentage exported in three crop years are shown in Table 23. In the year ending June 30, 1908, the heaviest movement from the farm occurred during August, September, and October, while the heaviest

exporting did not begin until November and continued through February. In 1909 the heaviest exporting began in September, the month in which the most marketing was done by the farmers. The movement from the farm, of course, had begun early, 9 per cent having been sold in July, 16 in August, and 26 in September. Marketing began to decline after October, while the comparatively heavy exports continued through December. Of the crop of 1909 marketed during the year ending June 30, 1910, more than 50 per cent had been delivered by farmers before the exports were well begun. By the end of October 69 per cent of the crop had been sold by farmers and 36 per cent of the exports of the season had been made. This was a short season for exporters, lasting practically but three months.

The imports of wheat into the United Kingdom do not vary to any large extent from month to month; an average for the 7 years ending with 1907 shows that the lowest monthly imports were 5.3 per cent of the total and occurred in February, while the highest were 9.9 per cent of the total, and were made in July. The receipts from the Pacific coast were heaviest in March, April, and May. It has been noted in Table 23 that the heaviest exports from that coast began in October. The time of transit is over 4 months. (Table 24.)

TABLE 23.—*Monthly marketings of wheat in Oregon, Washington, Idaho, and California, and monthly exports of domestic wheat through Pacific ports, including Alaska and Hawaii, during the years ending June 30, 1908–1910.*[a]

Month.	Year ending June 30—											
	1908				1909				1910			
	Marketings by farmers.		Domestic exports, excluding flour.		Marketings by farmers.		Domestic exports, excluding flour.		Marketings by farmers.		Domestic exports, excluding flour.[b]	
	Million bushels.	Per cent of total.	Million bushels.	Per cent of total.	Million bushels.	Per cent of total.	Million bushels.	Per cent of total.	Million bushels.	Per cent of total.	Million bushels.	Per cent of total.
July	2.14	4	(c)	(d)	4.10	9	0.20	2	1.57	3	0.01	(d)
August	8.03	15	0.13	1	7.29	16	.01	.....	6.29	12	.06	1
September	14.98	28	.64	2	11.84	26	2.82	26	18.35	35	.56	5
October	10.70	20	2.30	8	5.46	12	2.79	25	9.96	19	3.18	30
November	4.28	8	3.53	12	3.64	8	1.39	13	5.76	11	2.38	22
December	2.14	4	6.46	23	2.73	6	1.72	16	2.62	5	1.34	12
January	2.14	4	4.66	16	1.82	4	1.15	10	2.10	4	.50	5
February	1.61	3	5.13	18	2.73	6	.55	5	1.05	2	.14	1
March	2.14	4	2.32	8	2.28	5	.34	3	1.05	2	.40	4
April	1.61	3	1.76	6	1.37	3	.03	(d)	1.57	3	.85	8
May	2.14	4	.95	3	1.37	3	.....	.....	1.05	2	.84	8
June	1.60	3	.95	3	.91	2	.....	.....	1.05	2	.41	4
12 months	53.51	100	28.83	100	45.54	100	11.00	100	52.42	100	10.67	100

[a] "Marketings by farmers" taken from reports of the Bureau of Statistics, United States Department of Agriculture; exports from the Monthly Summary of Commerce and Finance of the United States.
[b] Preliminary.
[c] Less than 5,000 bushels.
[d] Less than 0.5 of 1 per cent.

TABLE 24.—*Average monthly imports of wheat into the United Kingdom from the Pacific coast of the United States and from all sources, 1901–1907.*[a]

Month.	Average for 1901–1907.								
	Quantity imported.			Percentage of year's total imported each month.			Percentage of month's total imported from each source.		
	From Pacific coast of the United States.	From other countries.	Total.	From Pacific coast of the United States.	From other countries.	Total.	From Pacific coast of the United States.	From other countries.	Total.
	Bushels.	*Bushels.*	*Bushels.*	*Per ct.*	*Per ct.*	*Per ct.*	*Per ct.*	*Per ct.*	*Per ct.*
January	468,854	10,362,281	10,831,135	4.5	6.6	6.5	4.3	95.7	100.0
February	654,651	8,142,202	8,796,853	6.3	5.2	5.3	7.4	92.6	100.0
March	1,384,417	12,220,658	13,605,075	13.3	7.8	8.2	10.2	89.8	100.0
April	1,383,039	12,089,962	13,473,001	13.3	7.8	8.1	10.3	89.7	100.0
May	1,498,459	13,680,703	15,179,162	14.4	8.8	9.1	9.9	90.1	100.0
June	963,265	15,337,962	16,301,227	9.3	9.8	9.8	5.9	94.1	100.0
July	1,013,557	15,435,722	16,449,279	9.8	9.9	9.9	6.2	93.8	100.0
August	695,610	15,208,201	15,903,811	6.7	9.8	9.5	4.4	95.6	100.0
September	749,239	14,638,140	15,387,379	7.2	9.4	9.2	4.9	95.1	100.0
October	830,351	13,780,096	14,610,447	8.0	8.8	8.8	5.7	94.3	100.0
November	430,213	13,477,548	13,907,761	4.1	8.6	8.4	3.1	96.9	100.0
December	316,480	11,738,843	12,055,323	3.1	7.5	7.2	2.6	97.4	100.0
12 months	10,388,135	156,112,318	166,500,453	100.0	100.0	100.0	6.2	93.8	100.0

[a] Compiled from monthly Accounts Relating to Trade and Navigation of the United Kingdom.

INDIRECT IMPORTS.

The principal steamship lines plying between the Pacific coast and foreign countries have a terminus at San Francisco or Seattle. At these two ports the bulk of the trade with foreign countries is carried on directly by water. At some other ports a considerable amount of foreign commodities is received through other customs districts.

TABLE 25.—*Value of merchandise imported into Pacific coast ports, 1905–1909, showing amount through "exterior" ports.*[a]

Customs district, and year ending June 30—	Total.	Through "exterior" ports.		Customs district, and year ending June 30—	Total.	Through "exterior" ports.	
		Amount.	Per cent of total.			Amount.	Per cent of total.
San Diego:				Oregon:			
1905	$275,631	$15,939	5.8	1905	$38,847	$11,262	29.0
1906	464,634	10,278	2.2	1906	7,068	2,072	29.3
1907	653,789	15,059	2.3	1907	21,364	1,181	5.5
1908	722,359	26,055	3.6	1908	31,928	11,777	36.9
1909	535,257	16,359	3.1	1909	16,551	8,278	50.0
Los Angeles:				Willamette (Portland):			
1905	810,000	459,351	56.7	1905	2,611,339	587,702	22.5
1906	827,059	534,721	64.7	1906	2,852,636	635,363	22.3
1907	1,559,322	1,076,560	69.0	1907	4,170,313	696,378	16.7
1908	1,538,199	1,018,805	66.2	1908	3,758,752	850,931	22.6
1909	1,305,341	789,808	60.5	1909	2,460,912	899,812	36.6
San Francisco:				Puget Sound:			
1905	46,675,545	3,835,871	8.2	1905	7,378,328	165,427	2.2
1906	44,433,271	4,217,810	9.5	1906	13,614,438	258,798	1.9
1907	54,094,570	5,285,030	9.8	1907	25,303,373	432,302	1.7
1908	48,251,476	4,090,115	8.5	1908	22,208,814	376,365	1.7
1909	49,998,111	2,858,702	5.7	1909	26,959,891	253,860	.9
Humboldt:				Total Pacific coast ports:			
1905	1,821	.....	.....	1905	57,791,516	5,075,552	8.8
1906	4,283	.....	.....	1906	62,203,389	5,659,042	9.1
1907	1,173	.....	.....	1907	85,853,904	7,506,510	8.7
1908	10,736	.....	.....	1908	76,522,264	6,374,048	8.3
1909	4,862	.....	.....	1909	81,280,925	4,826,819	5.9
Yaquina:							
1905	5	.....	.....				

[a] Compiled from annual reports of the Foreign Commerce and Navigation of the United States.

Some merchandise is landed at New York and transferred thence to Pacific coast ports. During the five years shown in Table 25 from 6 to nearly 10 per cent of the total merchandise imported at San Francisco was landed at other ports; at Los Angeles, from 57 to 69 per cent; and at all Pacific coast ports from 6 to 9 per cent.

DECLINE OF EXPORTS IN SAIL VESSELS.

In 1886–1890 nearly three-fourths and in 1906–1910 less than one-fifth of the exports from the Pacific coast were carried in sail vessels. Vessels of this type engage chiefly in the grain and lumber trade, but even in that traffic they are being supplanted by steamers. The trade with Asia is carried on largely by steamships, many of which belong to regular lines and carry passengers as well as freight. The decline of San Francisco as a grain port and its development in general commerce has done much to reduce its export trade by sail. (See Table 26.) In Puget Sound customs district the percentage of freight carried in sail vessels is still lower than at San Francisco. In 1886–1890 nearly 94 per cent of the exports from Portland was by sail and in 1906–1910 over 41 per cent. The relatively large exports of wheat from Portland make sail vessels still an important means of transportation to and from that place. On other coasts of the United States sailing ships share but little in the foreign trade; of the exports for 1906–1910 from other coasts than the Pacific 99 per cent was by steam.

TABLE 26.—*Percentage of value of domestic merchandise exported in sail and in steam vessels from Pacific (including Alaska and Hawaii) and other ports of the United States, 1886–1910.*[a]

Year ending June 30—	Pacific customs districts.										All other.		Total United States.	
	San Francisco.		Willamette (Portland).		Puget Sound.		Other.		Total Pacific, including Alaska and Hawaii.					
	Sail.	Steam.[b]	Sail.	Steam.[b]	Sail.	Steam.[b]	Sail.	Steam.[b]	Sail.	Steam.[b]	Sail.	Steam.[b]	Sail.	Steam.[b]
Average:	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*
1886–1890..	71.5	28.5	93.9	6.1	71.4	28.6	91.0	9.0	74.9	25.1	16.9	83.1	20.3	79.7
1891–1895..	69.4	30.6	91.2	8.8	70.1	29.9	84.4	15.6	72.5	27.5	8.6	91.4	11.8	88.2
1896–1900..	57.9	42.1	76.9	23.1	34.3	65.7	36.4	63.6	54.5	45.5	5.3	94.7	7.9	92.1
1901–1905..	35.0	65.0	59.1	40.9	19.7	80.3	16.2	83.8	31.5	68.5	2.8	97.2	4.4	95.6
1906–1910..	16.5	83.5	41.1	58.9	14.4	85.6	16.9	83.1	18.9	81.1	1.3	98.7	2.2	97.8
1906.....	12.4	87.6	38.7	61.3	16.3	83.7	33.8	66.2	17.4	82.6	1.7	98.3	2.6	97.4
1907.....	16.1	83.9	26.6	73.4	10.1	89.9	10.9	89.1	14.4	85.6	1.3	98.7	2.0	98.0
1908.....	18.6	81.4	47.5	52.5	17.6	82.4	15.0	85.0	23.4	76.6	1.2	98.8	2.3	97.7
1909.....	18.4	81.6	40.5	59.5	14.8	85.2	16.9	83.1	20.1	79.9	1.2	98.8	2.0	98.0
1910.....	18.4	81.6	52.0	48.0	12.3	87.7	13.2	86.8	19.4	80.6	1.0	99.0	1.8	98.2

[a] Compiled from annual reports of the Foreign Commerce and Navigation of the United States. Not including Hawaii prior to annexation.

[b] Including exports carried across the border in railroad cars and other land vehicles.

PRICES.

REVIEW OF 40 YEARS.

The average December 1 value of wheat on farms in the United States was much lower during 1905–1909 than during the period 1870–1874. The period of lowest prices, as shown in Table 27, for both wheat and barley, was during 1895–1899. For a single year the highest farm price on December 1, for the group of four States taken to represent the Pacific coast region, was $1.365 in 1871, and the lowest price in the 41 years covered by the table was 50.6 cents per bushel in 1894. For barley on the Pacific coast the year of highest farm price in the period covered was also 1871, barley being then quoted on December 1 at $1.073 per bushel, and the lowest price was 41.8 cents per bushel in 1893 and also in 1901.

It is to be noted that the average farm values (Table 27) refer to only one day of the year. For this reason a fair comparison can not be made between the farm prices in Table 27 and the average export values of wheat and barley as shown in Table 28, since the latter figures cover the entire 12 months.

TABLE 27.—*Average farm prices on December 1 of wheat and barley in the Pacific coast region and in the entire United States, 1870–1910.*[a]

[All values are gold.]

On December 1—	Wheat.			Barley.			On December 1—	Wheat.			Barley.		
	California, Oregon, Washington, and Idaho.	Other States.	Entire United States.	California, Oregon, Washington, and Idaho.	Other States.	Entire United States.		California, Oregon, Washington, and Idaho.	Other States.	Entire United States.	California, Oregon, Washington, and Idaho.	Other States.	Entire United States.
1870	107.9	93.4	94.4	97.2	71.7	79.1	1896	79.5	71.4	72.6	47.3	25.5	32.3
1871	136.5	112.5	114.5	107.3	63.6	75.8	1897	75.7	81.7	80.8	52.6	29.7	37.7
1872	107.8	111.9	111.4	84.2	62.4	68.6	1898	60.3	58.0	58.2	60.8	36.1	41.3
1873	126.7	105.0	106.9	83.9	88.2	86.7	1899	56.1	58.8	58.4	49.6	35.6	40.3
1874	94.5	85.3	86.3	77.3	90.7	86.0	1900	54.4	63.2	61.9	42.8	40.0	40.9
1875	113.1	86.9	89.5	90.0	68.7	74.1	1901	54.1	63.6	62.4	41.8	47.0	45.2
1876	108.1	95.5	96.3	69.0	60.3	63.0	1902	70.9	62.1	63.0	59.4	40.3	45.9
1877	125.5	104.0	105.7	88.9	54.5	62.8	1903	77.7	68.6	69.5	58.9	39.7	45.6
1878	101.3	74.4	77.6	64.9	53.9	57.9	1904	82.2	93.9	92.4	58.4	36.0	42.0
1879	118.3	110.0	110.8	56.3	60.4	58.9	1905	69.9	75.4	74.8	55.7	34.4	40.3
1880	91.4	95.5	95.1	61.3	69.4	66.6	1906	67.3	66.6	66.7	53.2	37.1	41.5
1881	98.7	121.9	119.2	75.7	84.6	82.3	1907	80.6	88.4	87.4	72.4	64.4	66.6
1882	89.1	88.3	88.4	67.2	61.6	62.9	1908	84.7	93.7	92.8	69.5	51.8	55.4
1883	96.5	90.3	91.1	63.5	57.2	58.7	1909	94.5	99.6	99.0	71.1	49.8	55.2
1884	65.5	64.4	64.5	51.6	47.4	48.7	1910	82.1	90.2	89.4	55.3	59.0	57.8
1885	68.5	78.5	77.1	75.9	49.9	56.3							
1886	71.2	68.4	68.7	64.3	48.9	53.6	Mean:						
1887	71.2	67.6	68.1	51.5	52.0	51.9	1870–1874	114.7	101.6	102.7	90.0	75.3	79.2
1888	82.0	94.2	92.6	57.9	59.4	59.0	1875–1879	113.3	94.2	96.0	73.8	59.6	63.3
1889	70.2	69.8	69.8	45.3	40.4	41.6	1880–1884	88.2	92.1	91.7	63.9	64.0	63.8
1890	75.8	85.0	83.8	74.2	58.7	62.7	1885–1889	72.6	75.7	75.3	59.0	50.1	52.5
1891	89.4	83.3	83.9	60.5	49.6	52.4	1890–1894	66.8	66.6	66.6	53.1	48.3	49.6
1892	65.6	62.0	62.4	46.7	47.8	47.5	1895–1899	65.3	64.0	64.2	50.0	31.7	37.1
1893	52.7	54.0	53.8	41.8	40.8	41.1	1900–1904	67.9	70.3	69.8	52.3	40.6	43.9
1894	50.6	48.9	49.1	42.5	44.7	44.2	1905–1909	79.4	84.7	84.1	64.4	47.5	51.8
1895	54.9	50.3	50.9	39.8	31.6	33.7							

[a] From reports of the Bureau of Statistics, United States Department of Agriculture. Averages for the different parts of the United States are here weighted according to production.

The average export value of wheat shipped through Pacific ports declined from $1.172 during 1871–1875 to 69.2 cents in 1896–1900; then prices went up until the average of 85.5 cents per bushel was reached in 1906–1910. The average export value of barley at the Pacific ports was 1 cent per bushel less in 1906–1910 than in 1871–1875. The lowest average for a five-year period was 49.5 cents in 1896–1900.

TABLE 28.—*Average export values of wheat and barley shipped through Pacific ports, including Alaska and Hawaii, and through all United States ports during the years ending June 30, 1871–1910.*[a]

[All values are gold.]

Year ending June 30—	Wheat.			Barley.			Year ending June 30—	Wheat.			Barley.		
	Pacific ports, including Alaska and Hawaii.	Other ports.	Entire United States.	Pacific ports, including Alaska and Hawaii.	Other ports.	Entire United States.		Pacific ports, including Alaska and Hawaii.	Other ports.	Entire United States.	Pacific ports, including Alaska and Hawaii.	Other ports.	Entire United States.
1871	119.8	119.1	119.2	56.4	65.1	57.7	1896	60.0	69.5	65.5	40.7	39.9	40.4
1872	138.9	132.5	133.2	81.3	60.6	68.5	1897	76.4	74.8	75.3	43.1	35.0	38.2
1873	108.0	129.9	120.5	66.7	61.5	66.2	1898	85.6	102.7	98.3	55.7	40.6	49.3
1874	127.4	130.6	130.0	65.3	75.2	65.6	1899	64.6	76.4	74.8	60.8	60.4	60.7
1875	91.9	108.1	103.0	63.7	99.1	66.4	1900	59.2	75.6	71.8	47.3	47.5	47.4
1876	118.0	110.6	112.3	63.3	93.4	65.4	1901	59.9	78.1	73.3	44.9	49.3	45.8
1877	107.2	116.7	112.1	58.2	55.7	56.1	1902	62.9	76.7	72.9	45.1	72.6	45.8
1878	131.5	131.0	131.0	87.5	63.0	63.9	1903	76.2	77.1	76.9	55.3	55.6	55.3
1879	102.7	107.4	106.6	56.1	55.7	56.0	1904	79.6	81.3	81.1	57.6	66.2	57.8
1880	114.6	125.9	124.3	66.5	74.8	69.5	1905	88.2	96.7	88.9	56.9	47.8	52.4
1881	85.2	116.5	111.4	61.8	77.2	62.0	1906	76.3	86.4	82.2	56.8	47.3	48.8
1882	98.2	135.3	118.5	73.3	81.3	73.6	1907	71.9	80.1	78.6	56.0	52.4	55.3
1883	104.2	115.7	112.7	68.5	93.3	69.1	1908	91.0	102.7	99.4	73.1	79.5	73.7
1884	101.5	109.1	106.6	52.7	77.9	55.7	1909	92.5	103.6	101.8	71.1	69.4	71.0
1885	77.5	91.4	86.2	55.0	86.7	55.0	1910	95.9	104.3	102.4	71.7	62.4	70.8
1886	80.9	92.0	87.0	65.8	93.7	66.0							
1887	85.5	90.0	89.0	64.0	75.2	65.4	Mean:						
1888	84.2	86.1	85.5	57.3	76.6	57.6	1871–1875	117.2	124.0	121.2	66.7	72.3	64.9
1889	87.6	93.5	89.7	59.2	61.8	59.3	1876–1880	114.8	118.3	117.3	66.3	68.5	62.2
1890	78.5	88.1	83.2	55.6	47.7	53.6	1881–1885	93.3	113.6	107.1	62.3	83.3	63.1
1891	85.5	103.9	93.3	70.7	66.5	68.8	1886–1890	83.3	89.9	86.9	60.4	71.0	60.4
1892	100.3	103.2	102.6	62.1	63.7	62.5	1891–1895	74.7	83.9	80.1	54.9	65.7	54.9
1893	76.8	80.8	79.9	48.1	64.6	48.4	1896–1900	69.2	79.8	77.1	49.5	44.7	47.2
1894	60.5	69.8	67.2	45.2	64.8	45.6	1901–1905	73.4	82.0	78.6	52.0	58.3	51.4
1895	50.5	61.9	57.6	48.3	69.0	49.1	1906–1910	85.5	95.4	92.9	65.7	62.2	63.9

[a] From annual reports of the Foreign Commerce and Navigation of the United States. Averages for the two groups of ports are here weighted according to quantities exported. Not including Hawaii prior to annexation.

FARM PRICES IN DIFFERENT SECTIONS.

Owing to the marked difference in prices of wheat in different sections of California, Oregon, Washington, and Idaho, it is advantageous to classify the reports of farm prices by regions of large or of small production. In California about one-half of the counties of the State produce some 20 times as much wheat as the other half, while in Washington, Oregon, and Idaho four groups of counties produce more than 30 times as much wheat as all the other counties, which in this bulletin are classified into five groups. The same classification of counties in the four States is used for barley, the regions of large production having crops many times as great as the other regions. The regions of large production are generally the great river valleys and the agricultural areas near the seacoast. In California the valleys of the San Joaquin and Sacramento Rivers, and the coast plain extending from Sonoma County to and including Santa Barbara County, include the regions of large production, as shown in Tables 29 and 31, while in Oregon, Washington, and Idaho the regions of large production comprise the counties located in the valleys of the Columbia, Snake, Willamette, and Rogue Rivers. These regions are the ones, of course, whose prices are significant in the large markets, while in those of small production, many of which do not produce much or any grain for sale in distant markets, higher prices are paid to the farmer than are paid in the counties of large production. (Tables 30 and 32.)

TABLE 29.—*Average farm prices of* **wheat** *in regions of* **large** *production in California, Oregon, Washington, and Idaho on the first day of each month, from July, 1908, to December, 1910.*[a]

[Cents per bushel.]

Region.[b]	1908						1909								
	July 1.	Aug. 1.	Sept. 1.	Oct. 1.	Nov. 1.	Dec. 1.	Jan. 1.	Feb. 1.	Mar. 1.	Apr. 1.	May 1.	June 1.	July 1.	Aug. 1.	Sept. 1.
Oregon, Washington, and Idaho.															
Western interior counties of Oregon	85	83	85	87	87	87	89	89	98	101	105	112	105	105	92
Upper Columbia and lower Snake River Valleys	77	75	75	76	77	73	76	88	92	98	105	108	107	99	76
Upper Snake River Valley	85	102	75	70	71	66	68	82	87	93	103	116	123	113	63
Middle Columbia River Valley	78	74	77	78	80	80	79	86	100	96	103	108	120	100	80
Average, 4 regions	79	78	77	78	79	76	79	87	93	98	105	109	109	101	79
California.															
Region of San Francisco Bay	97	92	95	105	99	95	95	95	117	109	118	129	104	116	113
Central coast region	85	90	87	87	82	95	89	97	89	101	106	128	116	111	102
Sacramento Valley	91	93	94	97	95	91	100	104	107	109	118	123	129	117	104
San Joaquin Valley	94	89	86	95	91	94	107	110	107	110	123	125	119	124	110
Average, 4 regions	93	91	91	98	94	93	100	103	108	109	119	125	119	118	108
Average, 8 regions	85	85	84	87	86	84	89	95	100	103	111	117	114	109	92

Region.	1909—Con.			1910											
	Oct. 1.	Nov. 1.	Dec. 1.	Jan. 1.	Feb. 1.	Mar. 1.	Apr. 1.	May 1.	June 1.	July 1.	Aug. 1.	Sept. 1.	Oct. 1.	Nov. 1.	Dec. 1.
Oregon, Washington, and Idaho.															
Western interior counties of Oregon	91	91	88	100	100	102	102	99	89	88	87	88	86	89	83
Upper Columbia and lower Snake River Valleys	77	81	88	96	99	95	93	81	76	68	79	81	73	74	67
Upper Snake River Valley	72	79	90	90	94	97	89	102	81	77	77	62	66	63	60
Middle Columbia River Valley	77	85	89	95	103	99	98	80	77	69	72	83	78	76	73
Average, 4 regions	79	83	88	96	99	97	95	82	85	72	80	82	75	76	70
California.															
Region of San Francisco Bay	105	107	121	109	115	116	108	104	95	90	97	99	94	98	89
Central coast region	94	95	102	110	112	112	107	88	88	80	90	88	85	89	80
Sacramento Valley	100	100	103	110	114	114	108	102	98	84	88	92	88	85	85
San Joaquin Valley	96	103	109	111	117	115	114	105	101	102	96	98	89	98	94
Average, 4 regions	100	102	109	110	115	115	110	102	97	90	92	95	89	92	88
Average, 8 regions	89	92	98	103	106	105	102	93	88	81	86	88	82	84	79

[a] Compiled from reports made to the Bureau of Statistics, United States Department of Agriculture. In computing these averages the price for each county was weighted in proportion to the production of 1899, as given in the census.

[b] The counties included in the respective regions are as follows:

Oregon, Washington, and Idaho:

Western interior counties of Oregon.—Benton, Clackamas, Douglas, Jackson, Josephine, Lane, Linn, Marion, Polk, Washington, Yamhill. (Total, 11.)

Region of upper Columbia and lower Snake Rivers.—In Oregon: Baker, Umatilla, Union, Wallowa. (Total, 4.) In Washington: Adams, Asotin, Columbia, Douglas, Franklin, Garfield, Grant, Lincoln, Spokane, Walla Walla, Whitman. (Total, 11.) In Idaho: Ada, Canyon, Idaho, Latah, Nez Perces, Washington. (Total, 6.)

Region of upper Snake River (Idaho).—Bannock, Bear Lake, Bingham, Fremont, Oneida. (Total, 5.)

Region of middle Columbia River.—In Oregon: Gilliam, Hood River, Morrow, Sherman, Wasco. In Washington: Benton, Klickitat, Yakima. (Total, 8.)

California:

Region of San Francisco Bay.—Alameda, Contra Costa, Marin, Napa, San Francisco, San Joaquin, San Mateo, Santa Clara, Santa Cruz, Solano, Sonoma. (Total, 11.)

Central coast region.—Monterey, San Benito, San Luis Obispo, Santa Barbara. (Total, 4.)

Sacramento Valley.—Butte, Colusa, Glenn, Placer, Sacramento, Sutter, Tehama, Yolo, Yuba. (Total, 9.)

San Joaquin Valley.—Fresno, Kern, Kings, Madera, Merced, Stanislaus, Tulare. (Total, 7.)

TABLE 30.—*Average farm prices of* **wheat** *in regions of* **small** *production in California, Oregon, Washington, and Idaho on the first day of each month from July, 1908, to December, 1910.*[a]

[Cents per bushel.]

Region.[b]	1908						1009								
	July 1.	Aug. 1.	Sept. 1.	Oct. 1.	Nov. 1.	Dec. 1.	Jan. 1.	Feb. 1.	Mar. 1.	Apr. 1.	May 1.	June 1.	July 1.	Aug. 1.	Sept. 1.
Oregon, Washington, and Idaho.															
Ocean counties and lower Columbia	88	94	92	88	88	94	98	116	103	107	116	124	119	115	104
Puget Sound counties	97	94	89	100	90	86	92	90	107	107	130	115	125	134	108
Northern and northeastern Washington and northern Idaho	87	82	85	85	81	85	88	80	108	95	150	148	141	144	123
Central and southeastern Oregon	79	80	88	77	94	89	91	120	118	104	122	125	119	145	122
Central and southwestern Idaho	92	75	82	65	80	81	83	74	88	95	85	110	114	122	92
Average 5 regions	88	85	88	82	86	88	92	98	105	101	125	127	124	130	110
California.															
Southern coast and southeastern counties	101	97	99	88	114	101	97	95	101	102	111	120	116	115	107
Northern interior	103	100	85	114	114	111	95	120	140	121	123	116	110	115	119
Northern coast	120	105	120	112	115	108	120	....	120	120	127	120	120	120	120
Eastern mountain	126	122	115	116	120	120	127	105	120	128	136	147	149	142	139
Average 4 regions	109	103	99	107	115	109	104	110	124	117	122	122	118	119	119
Average 9 regions	100	95	94	97	103	100	99	104	116	110	123	124	121	124	115

Region.[b]	1909—Con.			1910											
	Oct. 1.	Nov. 1.	Dec. 1.	Jan. 1.	Feb. 1.	Mar. 1.	Apr. 1.	May 1.	June 1.	July 1.	Aug. 1.	Sept. 1.	Oct. 1.	Nov. 1.	Dec. 1.
Oregon, Washington, and Idaho.															
Ocean counties and lower Columbia	97	104	101	106	104	116	104	87	116	92	100	94	90	91	96
Puget Sound counties	88	97	93	108	108	100	107	100	101	88	92	92	94	89	85
Northern and northeastern Washington and northern Idaho	88	92	100	115	112	117	112	105	112	74	85	96	98	103	95
Central and southeastern Oregon	90	98	108	126	120	95	118	95	109	110	105	105	101	86	99
Central and southwestern Idaho	76	94	102	88	96	102	88	90	110	128	78	94	82	78	76
Average, 5 regions	89	90	102	109	108	109	106	95	110	96	93	96	93	91	92
California.															
Southern coast and southeastern counties	102	101	118	119	113	110	115	112	106	90	99	98	96	100	84
Northern interior	95	103	107	124	110	95	110	108	101	92	92	95	108	100	104
Northern coast	122	120	120	135	....	120	120	120	120	88	95	120	120	105	105
Eastern mountain	138	134	127	135	133	135	129	116	131	117	102	123	112	108	111
Average, 4 regions	107	110	115	126	114	108	116	112	110	94	96	104	108	102	100
Average, 9 regions	100	101	109	119	111	109	111	105	110	95	94	101	101	97	97

[a] Compiled from reports made to the Bureau of Statistics, United States Department of Agriculture. In computing these averages the price for each county was weighted in proportion to the production of 1899, as given in the census.

[b] The counties included in the respective regions are as follows:

Oregon, Washington, and Idaho:

Ocean counties and lower Columbia.—In Oregon: Clatsop, Columbia, Coos, Curry, Lincoln, Multnomah, Tillamook. (Total, 7.) In Washington: Chehalis, Clallam, Clarke, Cowlitz, Jefferson, Lewis, Pacific, Skamania, Wahkiakum. (Total, 9.)

Puget Sound counties.—Island, King, Kitsap, Mason, Pierce, San Juan, Skagit, Snohomish, Thurston, Whatcom. (Total, 10.)

Northern and northeastern Washington and northern Idaho.—In Washington: Chelan, Ferry, Kittitas, Okanogan, Stevens. (Total, 5.) In Idaho: Bonner, Kootenai, Shoshone. (Total, 3.)

Central and southeastern Oregon.—Crook, Grant, Harney, Klamath, Lake, Malheur, Wheeler. (Total, 7.)

Central and southwestern Idaho.—Blaine, Boise, Cassia, Custer, Elmore, Lemhi, Lincoln, Owyhee, (Total, 8.)

California:

Southern coast and southeastern counties.—Imperial, Los Angeles, Orange, Riverside, San Bernardino, San Diego, Ventura. (Total, 7.)

Northern interior.—Lassen, Modoc, Plumas, Shasta, Siskiyou, Trinity. (Total, 6.)

Northern coast.—Del Norte, Humboldt, Lake, Mendocino. (Total, 4.)

Eastern Mountain.—Alpine, Amador, Calaveras, El Dorado, Inyo, Mariposa, Mono, Nevada, Sierra, Tuolumne. (Total, 10.)

TABLE 31.—*Average farm prices of* **barley** *in regions of* **large** *production in California, Oregon, Washington, and Idaho on the first day of each month from July, 1908, to December, 1910.*[a]

[Cents per bushel.]

Region.[b]	1908						1909								
	July 1.	Aug. 1.	Sept. 1.	Oct. 1.	Nov. 1.	Dec. 1.	Jan. 1.	Feb. 1.	Mar. 1.	Apr. 1.	May 1.	June 1.	July 1.	Aug. 1.	Sept. 1.
Oregon, Washington, and Idaho.															
Western interior counties of Oregon	62	61	58	54	62	61	70	68	68	68	66	78	80	69	60
Upper Columbia and lower Snake River Valleys	51	50	50	54	54	55	59	73	67	67	84	77	77	72	64
Upper Snake River Valley	65	70	62	58	60	60	60	62	62	50	85	88	60	83	45
Middle Columbia River Valley	54	52	53	54	61	53	59	59	70	69	65	77	79	70	57
Average, 4 regions	51	51	50	54	55	55	59	72	68	67	82	77	77	72	64
California.															
Region of San Francisco Bay	66	66	72	69	75	72	72	64	70	75	79	86	71	69	70
Central coast region	55	68	63	58	73	65	69	71	54	69	77	88	74	65	66
Sacramento Valley	63	64	59	60	58	70	70	67	67	68	71	66	70	65	64
San Joaquin Valley	75	64	54	68	66	73	70	75	70	72	66	61	73	61	82
Average, 4 regions	64	66	64	64	69	70	71	68	66	72	75	78	72	66	69
Average, 8 regions	62	63	62	62	66	67	68	68	66	71	76	78	73	67	68

Region.[b]	1909—Con.			1910										
	Oct. 1.	Nov. 1.	Dec. 1.	Jan. 1.	Feb. 1.	Mar. 1.	Apr. 1.	May 1.	June 1.	July 1.	Aug. 1.	Sept. 1.	Oct. 1.	Nov. 1.	Dec. 1.
Oregon, Washington, and Idaho.															
Western interior counties of Oregon	64	70	62	74	70	73	78	84	66	64	70	62	58	60	66
Upper Columbia and lower Snake River Valleys	57	56	60	60	65	68	60	65	59	47	47	50	49	46	48
Upper Snake River Valley	60	58	70	65	66	50	53	58	55	45	50	....	43	44	36
Middle Columbia River Valley	57	62	64	65	78	75	69	68	61	56	52	56	48	43	48
Average, 4 regions	57	56	60	61	66	68	61	66	59	48	48	50	49	46	48
California.															
Region of San Francisco Bay	64	67	70	73	64	70	67	66	64	55	55	49	54	49	54
Central coast region	60	59	63	70	65	84	68	60	70	70	48	52	46	44	57
Sacramento Valley	63	63	66	67	63	66	65	58	55	43	48	46	46	46	48
San Joaquin Valley	63	72	62	72	70	68	70	63	64	55	48	50	51	51	48
Average, 4 regions	63	65	66	71	65	71	67	62	63	55	51	49	50	47	52
Average, 8 regions	62	63	65	69	65	71	66	63	62	53	50	49	50	47	51

[a] Compiled from reports made to the Bureau of Statistics, United States Department of Agriculture. In computing these averages the price for each county is weighted in proportion to the production of 1899, as given in the census.

[b] See note [b], Table 29.

TABLE 32.—*Average farm prices of* **barley** *in regions of* **small** *production in California, Oregon, Washington, and Idaho on the first day of each month from July, 1908, to December, 1910.*[a]

[Cents per bushel.]

Region.[b]	1908						1909								
	July 1.	Aug. 1.	Sept. 1.	Oct. 1.	Nov. 1.	Dec. 1.	Jan. 1.	Feb. 1.	Mar. 1.	Apr. 1.	May 1.	June 1.	July 1.	Aug. 1.	Sept. 1.
Oregon, Washington, and Idaho.															
Ocean counties and lower Columbia	64	51	64	68	63	55	59	95	63	64	75	90	148	68	75
Puget Sound counties	55	65	70	80	72	55	....	....	63	75	112	....	84	88	82
Northern and northeastern Washington and northern Idaho	60	62	64	56	62	70	66	100	86	65	92	100	112	125	86
Central and southeastern Oregon	60	68	82	69	75	76	76	98	99	97	97	102	106	103	86
Central and southwestern Idaho	68	59	60	44	69	63	55	60	83	83	75	74	105	71	70
Average, 5 regions	63	60	68	62	67	68	65	93	83	80	86	95	118	95	78
California.															
Southern coast and southeastern counties	84	83	72	66	73	72	75	83	74	74	84	84	99	73	69
Northern interior	55	75	73	60	68	87	74	75	84	73	86	82	82	75	78
Northern coast	71	78	72	68	63	74	60	....	75	70	78	88	85	72	66
Eastern mountain	85	81	77	89	79	83	83	90	82	92	123	109	120	135	97
Average, 4 regions	79	81	73	67	72	75	74	82	73	75	87	86	97	79	72
Average, 9 regions	76	78	72	67	71	74	73	84	74	76	87	87	100	81	73

Region.[b]	1909—Con.			1910										
	Oct. 1.	Nov. 1.	Dec. 1.	Jan. 1.	Feb. 1.	Mar. 1.	Apr. 1.	May 1.	June 1.	July 1.	Aug. 1.	Sept. 1.	Oct. 1.	Nov. 1.	Dec. 1.
Oregon, Washington, and Idaho.															
Ocean counties and lower Columbia	70	60	77	70	70	66	69	64	124	65	74	69	58	59	82
Puget Sound counties	60	48	60	80	60	....	68	68	66	65	60	62	80	65	58
Northern and northeastern Washington and northern Idaho	72	72	85	99	80	76	85	110	60	80	....	96	80	67	76
Central and southeastern Oregon	67	67	78	102	84	74	91	89	93	96	88	75	79	65	76
Central and southwestern Idaho	54	78	60	53	83	54	70	60	73	92	60	66	62	60	55
Average, 5 regions	67	69	78	86	80	68	80	81	88	83	78	77	70	63	72
California.															
Southern coast and southeastern counties	70	71	81	72	75	81	82	79	66	67	57	53	55	56	49
Northern interior	73	65	76	81	74	64	76	73	70	67	52	65	70	69	70
Northern coast	75	72	75	72	....	72	78	74	71	54	52	60	50	48	55
Eastern mountain	108	92	102	83	75	78	98	89	72	60	71	81	78	73	71
Average, 4 regions	74	72	82	74	75	78	82	79	68	65	57	55	59	59	54
Average, 9 regions	74	72	81	76	76	76	82	79	71	68	59	58	60	59	57

[a] Compiled from reports made to the Bureau of Statistics, United States Department of Agriculture. In computing these averages the price for each county is weighted in proportion to the production of 1899, as given in the census.

[b] See note [b], Table 30.

AVERAGES FOR TWO YEARS.

The average price of wheat for the two crop years ending June, 1909 and 1910, has been computed for each of the 17 regions into which these four States are divided. The figures for each month have been weighted according to the proportion of the crop marketed that month, in order to give due importance to the prices which governed during periods of heavy and of light marketing. The averages obtained by this process are shown in Table 33, and also in figures 1 and 2.

The map (fig. 1) illustrating the prices of wheat in the various regions shows that the lowest farm prices in the years ending June, 1909 and 1910, were in the valleys of the Columbia and Snake Rivers, and the highest in the eastern mountain region of California. It will be noted that there is no region in California where farm prices were as low as in the great wheat country of the Pacific Northwest. In connection with this, attention is called to the fact that large shipments of wheat are made from Oregon and Washington to San Francisco. This movement down the coast is discussed more in detail on page 14.

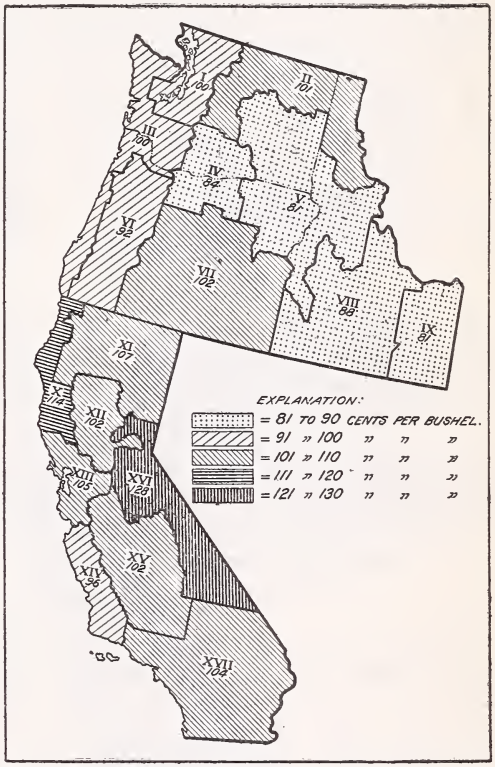

FIG. 1.—Average farm prices of wheat, in cents per bushel, in California, Oregon, Washington, and Idaho, for the years ending June, 1909 and 1910.[a]

It will be noted on the barley map (fig. 2) that in at least one region in California prices are nearly as low as in any region in Washington, Oregon, or Idaho, and it is also a fact that shipments of barley to San Francisco from the more northern States are relatively small compared with the wheat shipments.

[a] For explanation of Roman numerals, see Table 33.

TABLE 33.—*Average farm prices of wheat and barley in Oregon, Washington, Idaho, and California for the years ending June, 1909 and 1910, by regions.*[a]

[Cents per bushel.]

No.[b]	Region.[c]	Wheat.			Barley.		
		Year ending June—		Mean, 1909 and 1910.	Year ending June—		Mean, 1909 and 1910.
		1909	1910		1909	1910	
	Oregon, Washington, and Idaho.						
I	Puget Sound counties	95	105	100	62	71	66
II	Northern and northeast Washington and northern Idaho	89	113	101	64	94	79
III	Ocean counties and lower Columbia region	95	105	100	62	81	72
IV	Middle Columbia River Valleys	81	86	84	55	66	60
V	Upper Columbia and lower Snake River Valleys	79	83	81	53	65	59
VI	Western interior (Oregon)	88	95	92	61	70	66
VII	Central and southeastern Oregon	91	114	102	72	89	80
VIII	Central and southwestern Idaho	80	95	88	61	72	66
IX	Upper Snake River Valley (western Idaho)	82	80	81	65	62	64
	California.						
X	Northern coast region	109	119	114	70	70	70
XI	Northern interior	104	110	107	68	75	72
XII	Sacramento Valley	97	106	102	66	65	66
XIII	Region of San Francisco Bay	99	111	105	69	69	69
XIV	Central coast region	90	102	96	63	66	64
XV	San Joaquin Valley	95	109	102	67	70	68
XVI	Eastern mountain region	120	137	128	83	104	94
XVII	Southern coast and southeastern counties	100	108	104	78	76	77

[a] Compiled from reports made to the Bureau of Statistics, U. S. Department of Agriculture. In computing these averages, the price is for the first day of each month and is weighted in proportion to the quantity marketed by farmers that month. This table is the basis for the maps on pp. 49 and 51.

[b] Corresponding with Roman numerals on maps, pp. 49 and 51.

[c] For list of counties in each region, see note [b], Tables 29 and 30.

DIFFERENCE IN PRICE BETWEEN FARM AND ENGLAND.

GROSS PROFIT AND COST OF MARKETING.

The producer and consumer are interested indirectly in the costs of marketing, but they are affected more by the actual difference between what the one receives and the other pays than either is concerned with the costs incurred by the middleman in handling the commodity. But the costs of marketing bear a certain relation to the margin between what the producer receives and what the consumer pays. The middleman must make expenses and a fair profit or he can not continue in the business, hence for the greater part of the transactions affecting a given commodity in a series of markets the difference between the price received by the producer and that paid by the consumer must equal at least the cost of marketing.

In the wheat export trade of the Pacific coast it is difficult if not impossible to obtain comparable data for computing the above-mentioned difference. Wheat purchased from farmers is of various kinds and qualities, which are not differentiated in the published quotations of farm prices. An approximate comparison between farm prices of wheat in the Pacific Northwest and wholesale market prices paid by English buyers may be made in this way.

COMPARISONS WITH EXCHANGE PRICES AND EXPORT VALUES.

In Table 34 a comparison was made between average farm prices in regions which contribute to the Portland market and exchange prices of certain kinds of wheat at that city. To avoid as much as practicable the use of merely nominal prices, the quotations taken in this table were only for seasons of heaviest marketings; for the crops of 1908 and 1909, respectively, the six months beginning with August were taken and for the crop of 1910 as much of the corresponding period as was covered by figures available when the table was compiled.

The figure taken for the farm price each month in Table 34 was the mean of the farm prices on the first day of the month named and the first day of the following month; the farm price for the month of August was computed by adding the quotation for August 1 with that for September 1 and dividing the result by 2. The same method was followed in obtaining the farm prices given in Table 36. To secure an approximate average price for all kinds of wheat sold in Portland, quotations for each week for Bluestem, Club, and Red Russian were averaged by months.

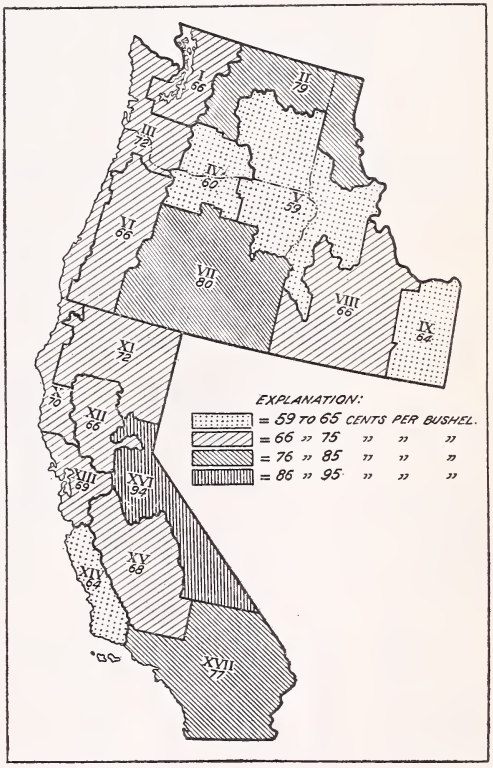

FIG. 2.—Average farm prices of **barley**, in cents per bushel, in California, Oregon, Washington, and Idaho, for the years ending June, 1909 and 1910.[a]

Since the wheat sold in regions of small production has probably but little if any influence in the large wholesale markets, the farm prices used to compare with exchange prices at Portland and export values at Portland and Puget Sound ports are those quoted in regions of large production.

Of the 16 months represented in Table 34, the average monthly spot prices at Portland ranged from 2 to 19 cents above farm prices, while the smallest difference between farm prices and average export values at Portland in any one of the 13 months given was 4 cents per bushel, and the greatest difference was 14.5 cents per bushel. Taking the average monthly export values at Puget Sound ports (chiefly

[a] For explanation of Roman numerals, see Table 33.

Tacoma), the smallest margin between farm and seaport for any one of the 16 months given was 0.5 cent per bushel and the greatest margin was 19 cents per bushel.

The averages for each season, as covered in Table 34, show a difference between farm and Portland exchange prices of 12.2 cents per bushel for the crop of 1908, 12 cents for that of 1909, and 7.5 cents per bushel for most of the seasons in which the crop of 1910 was marketed. The average seasonal differences between farm prices and export values, as computed in Table 34, ranged from 9.2 to 14.5 cents per bushel. These differences may be taken to represent possible if not probable conditions, for the margins shown are sufficient to allow for expenses of marketing. The cost of shipping wheat from country railroad stations and steamboat landings to Portland and Tacoma, including freight, warehouse charges, insurance, and minor expenses, ranged in 1910 from about 5 to about 17 cents per bushel.

TABLE 34.—*Comparison of average prices of wheat on farms in Oregon, Washington, and Idaho with exchange spot prices at Portland and average export values at Portland and Puget Sound, for seasons of heavy marketings, 1908–1910.*[a]

Year and month.	Average farm price in Oregon, Washington, and Idaho.		Mean exchange spot price at Portland of Club, Bluestem, and Red Russian.		Average export value of all kinds exported.			
					Portland.		Puget Sound.	
	In regions of small production.[b]	In regions of large production.[c]	Price.	Excess over farm price for regions of large production.	Price.	Excess over farm price for regions of large production.	Price.	Excess over farm price for regions of large production.
1908	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*
August	86.5	77.5	88.0	10.5	.....	.....	93.0	15.5
September	85.0	77.5	90.0	12.5	91.0	13.5	94.0	16.5
October	84.0	78.5	89.0	10.5	90.0	11.5	94.0	15.5
November	87.0	77.5	91.0	13.5	88.0	10.5	94.0	16.5
December	90.0	77.5	92.0	14.5	92.0	14.5	95.0	17.5
1909.								
January	95.0	83.0	95.0	12.0	94.0	11.0	92.0	9.0
Average	87.9	78.6	90.8	12.2	[d] 91.0	[d] 12.2	93.7	15.1
1909.								
August	120.0	90.0	92.0	2.0	.....	.....	98.0	8.0
September	99.5	79.0	89.0	10.0	93.0	14.0	98.0	19.0
October	89.5	81.0	93.0	12.0	85.0	4.0	93.0	12.0
November	96.0	85.5	100.0	14.5	97.0	11.5	94.0	8.5
December	105.5	92.0	111.0	19.0	102.0	10.0	108.0	16.0
1910.								
January	108.5	97.5	112.0	14.5	104.0	6.5	98.0	.5
Average	103.2	87.5	99.5	12.0	[d] 96.2	[d] 9.2	98.2	10.7
1910.								
August	94.5	81.0	90.0	9.0	.....	.....	96.0	15.0
September	94.5	78.5	86.0	7.5	91.0	12.5	93.0	14.5
October	92.0	75.5	84.0	8.5	89.0	13.5	89.0	13.5
November	91.5	73.0	78.0	5.0	82.0	9.0	88.0	15.0
Average	93.1	77.0	84.5	7.5	[e] 87.3	[e] 11.6	91.5	14.5

[a] Mean farm price for each month was computed from the farm prices for the first day of the month named and the first day of the following month, as reported by the Bureau of Statistics, United States Department of Agriculture.

[b] For list of counties see note *b*, Table 30, p. 46.

[c] For list of counties see note *b*, Table 29, p. 45.

[d] Average for September–January only; corresponding average for farm prices in regions of large production, in 1908–9, 78.8 cents; in 1909–10, 87 cents.

[e] Average for September–November only; corresponding average for farm prices in regions of large production, 75.7 cents.

SELECTED CARGOES.

To determine an approximate margin between the Pacific coast wholesale market and England the following method was adopted: The actual price as quoted in England for each of 10 selected cargoes of specific kinds of wheat of the crop of 1909 was compared (Table 35) with the lowest and highest market prices of about, if not exactly, the same kind of wheat as quoted at Portland for a period of six weeks prior to the sailing of the vessel. The English quotations include marine insurance and ocean freight and refer to sales made "to arrive." Such sales may be made as soon as the bill of lading is issued to the exporter, or they may occur just before the ship reaches its destination. Occasionally, if not frequently, the same cargo may be sold two or more times in transit.

According to Table 35 the average excess of the English price over the exchange price at Portland for these 10 cargoes ranged from about 20 to about 28 cents per bushel. These differences are sufficient to allow for freight and marine insurance from Portland to Liverpool, the sum of which items in the year ending June 30, 1910, was from about 14 to about 23 cents per bushel.

TABLE 35.—*Prices paid in England for 10 selected cargoes of wheat shipped from Portland, compared with spot prices at Portland, crop of 1909.*

[Prices in cents per bushel of 60 pounds.]

Kind of wheat in cargo.	Date of shipment.	Price of cargo as quoted in England.[a]	Price of about same kind of wheat at Portland.				
			Period of six weeks ending—[b]	Price.[c]		Excess in England over Portland.	
				Lowest.	Highest.	Largest.	Smallest.
	1909.		1909.				
White Walla Walla	Oct. 4	116.8	Oct. 5	84	89	32.8	27.8
No. 1 Red Walla Walla	Oct. 14	116.8	Oct. 12	82	88	34.8	28.8
No. 1 Red Walla Walla	Oct. 22	118.3	Oct. 19	86	90	32.3	28.3
White Walla Walla	Oct. 22	116.1	Oct. 19	87	92	29.1	24.1
Red Walla Walla	Oct. 26	109.5	Oct. 26	86	90	23.5	19.5
White Walla Walla (half cargo).	Nov. 4	115.3	Nov. 2	87	92	28.3	23.3
Red Walla Walla (half cargo).							
Red Walla Walla	Nov. 10	115.0	Nov. 9	86	92	29.0	23.0
Bluestem (half cargo)	Dec. 2	116.1	Nov. 30	97	109	19.1	7.1
Walla Walla (half cargo)							
Red Walla Walla	Dec. 14	114.6	Dec. 14	92	106	22.6	8.6
Walla Walla	Dec. 15	116.1	Dec. 14	95	108	21.1	8.1
Average		115.5		88	96	27.5	19.5

[a] Dornbusch's Floating Cargoes Evening List (London). These prices include ocean freight and marine insurance.
[b] Quotations taken for one day (Tuesday) of each week.
[c] Morning Oregonian (Portland).

CONDITIONS IN CALIFORNIA.

The monthly farm prices of wheat in California (Table 36) were computed by the same method used for the Pacific Northwest in Table 34 and described on page 52. According to Table 36 the

average of the highest prices quoted for No. 1 White wheat on the San Francisco Merchants' Exchange for the six months beginning August, 1908, exceeded the corresponding average farm price in regions of large production in California by 9 cents per bushel, and for the six months of the following year, 9.4 cents per bushel. The seasonal averages for the lowest prices of No. 1 White wheat at San Francisco were usually not far enough above the average farm prices, used in this comparison, to allow for cost of delivering to San Francisco.

One explanation for the failure to secure a better comparison of prices in Table 36 may be due to the exchange prices representing but one kind and grade, while farm prices were not so restricted in their application.

TABLE 36.—*Comparison of average prices of wheat on farms in California with exchange spot prices of No. 1 White wheat at San Francisco, for seasons of heavy marketings, 1908 and 1909.*[a]

Year and month.	Average farm price in California.		Exchange spot price of No. 1 White wheat at San Francisco.			
			Highest.		Lowest.	
	In regions of small production.[b]	In regions of large production.[c]	Price.	Excess over regions of large production.	Price.	Excess over regions of large production.
1908.	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*
August	101.0	91.0	104.0	13.0	99.0	8.0
September	103.0	94.5	106.0	11.5	99.0	4.5
October	111.0	96.0	104.0	8.0	98.0	2.0
November	112.0	93.5	104.0	10.5	100.0	6.5
December	106.5	96.5	104.0	7.5	100.0	3.5
1909.						
January	107.0	101.5	105.0	3.5	102.0	.5
Average	106.8	95.5	104.5	9.0	99.7	4.2
1909.						
August	119.0	113.0	120.0	7.0	105.0	[d] 8.0
September	113.0	104.0	108.0	4.0	99.0	[d] 5.0
October	108.5	101.0	120.0	19.0	99.0	[d] 2.0
November	112.5	105.5	111.0	5.5	108.0	2.5
December	120.5	109.5	120.0	10.5	117.0	7.5
1910.						
January	120.0	112.5	123.0	10.5	114.0	1.5
Average	115.6	107.6	117.0	9.4	107.0	[d] 0.6

[a] For source of farm prices, see note *a*, Table 34. Exchange prices as quoted by San Francisco Merchants' Exchange and refer to wheat sold in the sample market.
[b] For list of counties, see note *b*, Table 30, p. 46.
[c] For list of counties, see note *b*, Table 29, p. 45.
[d] Excess of farm price over San Francisco exchange price, as quoted.

PORTLAND AND SAN FRANCISCO.

Prices of Club, Bluestem, and Red Russian wheat are quoted regularly on the Merchants' Exchange, San Francisco. A fairly satisfac-

tory comparison may therefore be made between San Francisco and Portland in each of the three kinds of wheat.

TABLE 37.—*Monthly spot prices of Northern Club, Bluestem, and Red Russian wheat at San Francisco and Portland, 1908–1910.*

[Cents per bushel.]

Year and month.	Club.			Bluestem.			Red Russian.			Mean of the 3 kinds, San Francisco.	
	Portland, Oreg.[a]	San Francisco.[b]		Portland, Oreg.[a]	San Francisco.[b]		Portland, Oreg.[a]	San Francisco.[b]		Price.	Excess over Portland.
		Price.	Excess over Portland.		Price.	Excess over Portland.		Price.	Excess over Portland.		
1908.											
January	84.5	101.3	16.8	86.5	105.5	19.0	82.5	97.3	14.8	101.4	16.9
February	81.2	100.1	18.9	83.2	103.4	20.2	79.5	96.7	17.2	100.1	18.8
March	82.6	98.4	15.8	84.6	100.3	15.7	80.6	96.5	15.9	98.4	15.8
April	84.5	97.7	13.2	87.0	100.3	13.3	82.5	96.0	13.5	98.0	13.3
May	88.5	99.4	10.9	90.8	101.0	10.2	86.0	99.0	13.0	99.8	11.4
June	87.6	99.0	11.4	89.7	102.7	13.0	85.6	98.4	12.8	100.0	12.4
July	85.2	97.7	12.5	87.2	101.5	14.3	83.2	96.7	13.5	98.6	13.4
August	87.5	99.7	12.2	91.8	105.0	13.2	86.0	98.6	12.6	101.1	12.7
September	88.2	99.7	11.5	92.4	105.0	12.6	.....	99.0	.....	101.2	.....
October	88.6	99.7	11.1	93.2	105.0	11.8	86.0	99.0	13.0	101.2	11.9
November	90.1	99.7	9.6	94.5	105.0	10.5	87.0	98.5	11.5	101.1	10.6
December	90.8	99.7	8.9	96.7	106.1	9.4	88.2	98.3	10.1	101.4	9.5
1909.											
January	92.2	100.5	8.3	103.5	107.6	4.1	89.8	98.6	8.8	102.2	7.0
February	100.0	106.6	6.6	111.6	116.5	4.9	96.1	103.7	7.6	108.9	6.3
March	108.4	114.6	6.2	120.6	124.2	3.6	104.9	112.7	7.8	117.2	5.9
April	117.4	123.0	5.6	127.5	132.7	5.2	108.2	120.4	12.2	125.4	7.7
May	120.6	128.6	8.6	132.5	135.7	3.2	118.8	124.8	6.0	129.7	5.7
June	120.6	129.7	9.1	131.5	136.5	5.0	.....	125.3	.....	130.5	.....
July	117.0	126.4	9.4	130.0	136.5	6.5	98.0	125.3	27.3	129.4	14.4
August	90.9	105.7	14.8	96.6	114.0	17.4	86.9	105.0	18.1	108.2	16.7
September	86.9	99.2	12.3	95.8	107.3	11.5	85.0	97.3	12.3	101.3	12.0
October	90.5	99.7	9.2	99.5	109.9	10.4	88.5	98.6	10.1	102.7	9.9
November	97.1	106.4	9.3	107.8	115.2	7.4	95.0	103.9	8.9	108.5	8.5
December	108.0	115.1	7.1	119.0	124.8	5.8	106.0	112.5	6.5	117.5	6.5
1910.											
January	109.0	115.7	6.7	119.0	126.4	7.4	107.0	113.8	6.0	118.6	6.9
February	106 0	.....	.....	114.8	123.0	8.2	104.2	112.2	8.0	.....	.....
March	102.0	.....	.....	109.1	118.1	9.0	101.1	108.7	7.6	.....	.....
April	91.1	99.9	8.8	95.6	105.2	9.6	89.4	97.9	8.5	101.0	9.0
May	83.7	92.4	8.7	87.4	97.2	9.8	81.9	89.8	7.9	93.1	8.8
June	78.9	86.6	7.7	83.1	91.3	8.2	76.8	85.4	8.6	87.8	8.2
July	83.6	91.7	8.1	89.0	97.9	8.9	81.0	90.2	9.2	93.3	8.8
August	87.7	99.2	11.5	96.3	106.2	9.9	85.7	98.6	12.9	101.3	11.4
September	84.0	97.1	13.1	91.6	103.5	11.9	81.8	96.4	14.6	99.0	13.2
October	82.6	92.2	9.6	87.2	98.6	11.4	81.0	90.4	9.4	93.7	10.1
November	77.8	87.4	9.6	80.1	91.8	11.7	75.6	87.2	11.6	88.8	11.0
December	81.1	89.4	8.3	83.2	93.6	10.4	79.5	88.1	8.6	90.4	9.1
Average, 12 months ending December—											
1908	86.6	99.3	12.7	89.8	103.4	13.6	.....	97.8	.....	100.2	.....
1909	104.1	113.0	8.9	114.7	121.7	7.0	.....	110.7	.....	115.1	.....
1910	89.0	.....	.....	94.7	104.4.	9.7	87.1	96.6	9.5	.....	.....
Average, 12 months ending June—											
1909	99.1	108.4	9.3	106.9	115.1	8.2	.....	106.3	.....	109.9	.....
1910	96.8	.....	.....	104.8	114.1	9.3	93.3	104.2	10.9	.....	.....

[a] Compiled from quotations in the Morning Oregonian (Portland).
[b] Compiled from quotations in the Examiner and the Chronicle (both of San Francisco).

Average prices for each month of the three calendar years ending with 1910 are shown in Table 36; and the differences between the two markets for Club wheat ranged from 5.6 cents to 18.9 cents per bushel; for Bluestem, from 3.2 cents to 20.2 cents per bushel; and for Red Russian from 6 cents to 27.3 cents per bushel. Taking a mean of all three kinds of wheat, the excess of San Francisco price over Portland ranged from 5.7 to 18.8 cents per bushel; this generally exceeded the freight charge between these two markets, as quoted in Table 49. Owing to the fact that a large portion of the wheat handled by large dealers is bought by them directly from the farmer, the prices at Portland may be, to a greater or less extent, different from the actual prices paid for the wheat shipped to San Francisco. On the other hand, the San Francisco buyer may have local agents not only in California but throughout the Pacific Northwest, and part of his purchases may be made directly from farmers in Oregon, Washington, or Idaho, and sold directly to California millers. In such cases the prices would not be a matter of public record. Hence it may be assumed that the differences between San Francisco and Portland prices, as shown in Table 38, are to be taken merely as approximate.

PRICES IN ENGLAND.

The average import value of wheat in the United Kingdom includes cost, insurance, and freight; hence the import values of wheat from the various countries shown in Table 38 are on a common basis as to place of delivery. The period of highest prices for wheat imported into the United Kingdom during 1891–1908 was the three years ending with 1908.

In this three-year period, the average import value in the United Kingdom of wheat from Australia was 103.9 cents per bushel; from Chile, 103.6; British India, 102.1; Russia, 102.1; United States ports not on the Pacific coast, 102; Canada, 101.2; United States Pacific coast ports, 100.1; Roumania, 98.9; Argentina, 98.1; and from New Zealand, 91 cents per bushel. The relative position as to average value of the imports from these countries changes from time to time. For the period 1891–1895 the average import value of wheat from the United States Pacific coast was 93 cents, and was higher than that for any other country listed in Table 38, except Australia.

These differences in value do not necessarily represent differences in the quality of wheat from different countries; there may be differences in value due to prices being higher during the season of the year in which some countries place their wheat on the English market than in the season when wheat from other countries arrives.

TABLE 38.—*Average yearly prices of wheat in California, Oregon, Washington, and Idaho and average import values in the United Kingdom, 1891–1908.*

[Cents per bushel of 60 pounds.]

Year.	Farm price, Dec. 1 of preceding year, California, Oregon, Washington, and Idaho.[a]	Average export value, years ending June 30, at Pacific ports.[b]	Average import value in United Kingdom, year ending Dec. 31, wheat from—[c]									
			Pacific coast ports, United States.	Other ports, United States.	Argentina.	Australia.	Canada.	Chile.	British India.	New Zealand.	Roumania.	Russia.
1891	75.8	85.5	121.0	118.9	116.3	122.5	117.6	117.3	110.3	125.4	112.1	115.2
1892	89.4	100.3	107.1	100.6	96.2	107.7	97.2	101.7	100.4	99.9	87.6	87.9
1893	65.6	76.8	88.1	84.5	80.8	93.3	84.5	81.3	82.1	84.7	79.0	80.3
1894	52.7	60.5	73.3	72.0	66.7	73.5	71.4	71.4	69.6	80.0	69.1	66.5
1895	50.6	50.5	75.3	74.0	72.0	75.9	78.7	76.1	69.3	74.3	69.3	68.6
1896	54.9	60.0	82.1	82.6	76.1	83.4	78.7	80.0	77.2	.....	81.9	78.5
1897	79.5	76.4	94.4	100.4	89.2	.....	101.4	95.7	110.0	.....	90.7	94.1
1898	75.7	85.6	106.1	105.1	114.7	97.8	101.4	106.6	97.2	121.2	108.7	106.4
1899	60.3	64.6	87.1	89.2	83.2	88.4	89.4	82.6	84.5	85.5	89.7	87.1
1900	56.1	59.2	88.4	90.5	85.8	92.0	90.7	90.5	93.3	87.1	90.5	88.9
1901	54.4	59.9	86.8	86.8	86.0	88.1	86.3	.....	80.8	84.7	80.8	85.8
1902	54.1	62.9	89.4	86.3	88.4	92.6	87.3	88.1	86.6	89.7	83.7	85.5
1903	70.9	76.2	92.6	90.5	86.8	100.4	90.2	91.2	86.3	58.7	87.6	88.1
1904	77.7	79.6	93.6	92.8	91.5	95.2	93.9	93.3	86.8	89.9	89.4	93.6
1905	82.2	88.2	95.9	96.5	92.8	98.5	96.5	92.3	90.2	91.5	94.4	96.5
1906	69.9	76.3	93.9	93.1	90.7	94.9	93.1	92.8	89.2	97.8	88.1	90.7
1907	67.3	71.9	96.5	102.7	95.7	102.5	103.8	111.3	102.5	84.2	91.8	99.3
1908	80.6	91.0	109.8	110.3	107.9	114.4	106.6	106.6	114.7	.....	116.8	116.3
Average:												
1891–1895	66.8	74.7	93.0	90.0	86.4	94.6	89.9	89.6	86.3	92.9	83.4	83.7
1896–1900	65.3	69.2	91.6	93.6	89.8	[d] 90.4	92.3	91.1	92.4	[e] 97.9	92.3	91.0
1901–1905	67.9	73.4	91.7	90.6	89.1	95.0	90.8	[f] 91.2	86.1	82.9	87.2	89.9
1906–1908	72.6	79.7	100.1	102.0	98.1	103.9	101.2	103.6	102.1	91.0	98.9	102.1

[a] Reports of the Bureau of Statistics, United States Department of Agriculture.
[b] Annual reports of the Foreign Commerce and Navigation of the United States.
[c] Annual Statement of the Trade of the United Kingdom with Foreign Countries and British Possessions. No separate returns for Pacific ports of the United States subsequent to 1908.
[d] Average, 1896 and 1897–1900.
[e] Average, 1897–1900.
[f] Average, 1902–1905.

PRICES OF LIVE STOCK.

As live stock on the Pacific coast is sold generally on the farm or range, quotations of market prices are obtainable only for a small part of the trade. Prices at San Francisco for each month in 1909 and 1910, and at Portland from September, 1909, the month in which the stockyards at that city were opened, to December, 1910, inclusive, are summarized in Tables 39 and 40. During the four months ending with December, 1910, prices for cattle and hogs were generally higher than for the corresponding period of 1909, while prices for sheep and lambs were about the same.

TABLE 39.—*Prices of live stock at San Francisco, one day each month from January, 1909, to December, 1910.*[a]

[Per 100 pounds gross weight.]

Date.	Cattle.						Sheep, prime wethers.				Hogs, hard-grain fed.	
	No. 1 prime steers, over 1,250 pounds.		Medium to fair steers.		Stockers and feeders.		Small.		Large.			
	Low.	High.	Low.	High.	Low.	High.	Low.	High.	Low.	High.	Low.	High.
1909.												
January 9	$3.75	$4.00	$3.50	$3.75	$3.25	$3.25	.....	.....	.....	.....	$5.50	$6.25
February 6	4.75	5.00	4.25	4.50	3.25	3.25	.....	.....	.....	.....	5.25	6.50
March 6	4.75	5.00	4.25	4.50	3.25	3.25	.....	.....	.....	.....	6.00	6.75
April 3	4.75	4.75	4.25	4.50	3.25	3.25	$4.50	$5.00	$4.00	$4.50	6.25	7.00
May 1	4.50	4.50	4.00	4.25	3.00	3.00	4.25	4.50	4.00	4.25	6.50	7.25
June 5	4.00	4.25	3.50	4.00	3.00	3.00	4.00	4.25	3.75	4.00	6.50	7.25
July 3	3.75	4.00	3.50	3.75	3.00	3.00	3.75	4.00	3.25	3.50	6.50	7.25
August 7	3.75	4.00	3.50	3.75	3.00	3.00	3.75	4.00	3.25	3.50	7.00	7.75
September 11	4.125	4.25	3.75	4.00	3.50	3.50	4.25	4.50	3.75	4.00	7.00	7.50
October 2	4.125	4.25	3.75	4.00	3.50	3.50	4.50	4.75	4.00	4.25	7.00	7.25
November 6	4.125	4.25	3.75	4.00	3.50	3.50	4.75	5.00	4.25	4.50	7.00	7.50
December 4	4.50	4.50	4.00	4.50	3.50	3.50	5.00	5.50	4.50	5.00	7.125	7.75
Range	3.75	5.00	3.50	4.50	3.00	3.50	3.75	5.50	3.25	5.00	5.25	7.75
1910.												
January 1	4.50	4.50	4.00	4.50	3.50	3.50	5.00	5.50	4.50	5.00	7.75	8.50
February 5	4.75	5.00	4.25	4.75	3.50	3.50	6.50	7.00	6.00	6.50	8.50	9.25
March 5	4.75	5.00	5.25	5.50	3.50	3.50	7.25	7.50	6.75	7.00	9.00	9.75
April 2	4.75	5.00	5.25	5.50	3.50	3.50	6.75	7.00	6.25	6.50	9.75	10.50
May 7	4.75	5.00	4.50	4.75	3.50	3.50	[b] 5.50	[b] 5.75	[b] 5.00	[b] 5.25	9.25	9.75
June 4	4.50	4.75	4.50	4.75	3.50	3.50	[b] 5.50	[b] 5.75	[b] 5.00	[b] 5.25	9.125	9.50
July 2	4.50	4.75	4.50	4.75	3.50	3.50	[b] 5.25	[b] 5.75	[b] 5.00	[b] 5.25	9.00	9.50
August 6	5.25	5.50	4.50	4.75	3.50	3.50	[b] 5.50	[b] 5.75	[b] 5.00	[b] 5.25	9.25	10.00
September 3	5.00	5.25	4.50	4.75	4.25	4.50	[b] 5.50	[b] 5.75	[b] 5.00	[b] 5.25	9.25	9.50
October 1	5.00	5.25	4.50	4.75	4.25	4.50	[b] 5.25	[b] 5.75	[b] 5.00	[b] 5.25	9.00	9.50
November 5	5.00	5.25	4.50	4.75	4.25	4.50	5.25	5.50	4.50	4.75	8.75	9.25
December 3	5.00	5.25	4.50	4.75	4.25	4.50	5.25	5.50	4.50	4.75	7.00	8.00
Range	4.50	5.50	4.00	5.50	3.50	4.50	5.00	7.50	4.50	7.00	7.00	10.50

[a] Compiled from Butchers' and Stockgrowers' Journal (San Francisco).
[b] For shorn wethers; quotations not having this note are not specified in the original as applying either to "wool" or "shorn" wethers.

TABLE 40.—*Prices of live stock at Union Stockyards, Portland, one day each month from September, 1909, to December, 1910.*[a]

[Per 100 pounds.]

Date.	Cattle; best and ordinary steers.		Calves; best and ordinary.		Sheep; sheared best yearling wethers and old wethers.		Lambs.		Hogs, "best east of the mountains" and fancy.	
	Low.	High.	Low.	High.	Low.	High.	Low.	High.	Low.	High.
1909.										
September 7	$4.00	$4.50	$4.25	$5.50	$3.75	$4.00	$5.00	$5.50	$8.00	$8.50
September 21	3.75	4.25	3.00	5.00	3.75	4.00	5.25	5.50	7.75	8.00
October 5	3.75	4.25	4.00	5.25	4.25	4.50	5.00	5.50	7.75	8.00
October 19	4.25	4.75	3.00	5.50	4.25	4.50	5.00	5.25	7.75	8.00
November 2	3.75	4.25	3.50	5.25	4.00	4.25	5.00	5.25	7.50	7.85
November 16	4.25	4.50	3.50	5.25	4.00	4.50	.....	5.25	7.95	8.10
December 7	4.50	4.75	3.00	5.25	4.50	4.75	5.50	6.00	8.10	8.25
December 17	4.50	4.75	3.00	5.50	5.00	5.50	.....	6.00	8.65	8.85
1910.										
January 4	4.75	5.00	3.00	5.50	5.00	5.50	6.00	6.25	8.75	8.85
January 18	4.75	5.35	5.00	6.00	5.00	5.50	6.00	6.25	9.00	9.25
February 1	4.90	5.00	5.00	6.00	5.50	6.00	6.50	6.75	8.50	9.00
February 15	5.00	5.65	5.00	6.00	5.50	6.00	6.50	6.75	9.00	9.25
March 1	5.50	5.75	5.00	6.00	5.50	6.00	6.50	6.75	9.75	10.10
March 15	5.85	6.25	6.00	7.00	5.50	6.00	6.50	6.75	11.00	11.10

[a] Quotations of prices from the Oregon Daily Journal (Portland).

TABLE 40.—*Prices of live stock at Union Stockyards, Portland, one day each month from September, 1909, to December, 1910*—Continued.

Date.	Cattle; best and ordinary steers.		Calves; best and ordinary.		Sheep; sheared best yearling wethers and old wethers.		Lambs.		Hogs, "best east of the mountains" and fancy.	
	Low.	High.	Low.	High.	Low.	High.	Low.	High.	Low.	High.
1910.										
April 5	$6.50	$7.00	$6.00	$7.00	$8.25	$8.90	$7.00	$12.00	$11.00	$11.15
April 19	6.40	6.85	6.00	7.00	5.50	6.00	.....	7.50	10.40	11.15
May 3	6.25	6.50	5.50	6.50	5.25	5.75	.....	7.50	10.25	10.60
May 17	6.00	6.15	6.50	7.00	4.75	5.00	.....	7.00	10.50	10.55
June 7	5.50	5.75	5.50	6.50	3.00	4.85	5.75	6.00	9.50	9.80
June 21	5.50	5.60	5.50	6.75	3.00	4.75	6.00	6.10	9.70	9.85
July 5	5.50	5.50	5.50	6.50	3.00	4.40	.....	5.75	9.75	10.00
July 19	5.25	5.50	5.50	6.50	3.00	4.00	.....	6.00	10.15	10.35
August 2	5.70	6.00	5.60	6.75	3.25	4.35	4.50	6.00	10.15	10.25
August 16	5.00	5.25	5.60	7.75	4.00	4.25	4.50	6.00	9.60	9.75
September 6	5.00	5.25	6.50	6.75	4.00	4.25	5.00	5.75	10.00	10.40
September 20	5.00	5.75	6.00	7.00	4.00	4.25	5.25	5.50	10.50	10.70
October 4	5.00	5.50	6.50	7.00	4.00	4.25	5.00	5.25	10.00	10.25
October 18	5.00	5.50	6.50	7.10	4.00	4.25	4.50	5.25	9.50	9.85
November 8	5.25	5.75	6.50	7.00	4.00	4.75	4.85	5.00	9.40	9.50
November 22	5.25	5.55	6.50	7.50	4.00	5.00	5.00	5.25	9.00	9.25
December 6	5.50	5.75	6.50	7.00	4.50	5.00	.....	5.50	7.80	8.10
December 20	5.50	6.50	6.50	7.00	4.50	5.00	.....	5.75	8.00	8.85
Range, four months:										
September–December, 1909	3.75	4.75	3.00	5.50	3.75	5.50	5.00	6.00	7.50	8.85
January–April, 1910	4.75	7.00	3.00	7.00	5.00	8.90	6.00	12.00	8.50	11.15
May–August, 1910	5.00	6.50	5.50	7.75	3.00	5.75	4.50	7.50	9.50	10.60
September–December, 1910	5.00	6.50	6.00	7.50	4.00	5.00	4.50	5.75	7.80	10.70

FREIGHT RATES.

AVERAGE RAILROAD RATES.

The railroad freight rates on grain and live stock to principal Pacific coast terminals have been secured for a large number of shipping points, and weighted averages computed. It will be noted in Table 41 that the rates on grain from 920 stations in Oregon, Washington, and Idaho to Portland averaged $2.81 per short ton, while the average from 412 stations in the same States to Seattle and Tacoma was $3.26. This difference between Portland and the Puget Sound cities does not represent an advantage of the former city over the others. As a rule, the rates to Portland, Seattle, and Tacoma from the principal points in the grain-producing regions of the upper Columbia and Snake Rivers are the same. The reason for the difference shown in Table 41 is that the same stations were not taken to compute both averages.

West of the Rocky Mountains rates on live stock are regularly quoted on the basis of a car of standard length and not upon the weight of the animals loaded therein. In case it is desired to estimate the rate per 100 pounds for any kind of live stock carried over a route mentioned in Table 41 some assistance may be had from Table 42, which shows the average number of live stock per car as received at Portland during three months and from Table 43, which gives the average weight per head of different kinds of live stock sold at that market.

TABLE 41.—*Railroad freight rates on grain and live stock over selected routes in Pacific coast States, June, 1910.*[a]

Commodity and destination.	Shipping points.		Rate.		
	States.	Number of stations.	Lowest.	Highest.	Average.
Grain.			*Per short ton.*	*Per short ton.*	*Per short ton.*
Seattle and Tacoma	Oregon, Washington, and Idaho.	412	$0.70	$5.00	$3.26
Do	Montana	444	7.00	9.00	7.71
Portland	Oregon, Washington, and Idaho.	920	.60	5.40	2.81
Do	Montana	296	7.00	9.00	7.69
Do	California	443	4.00	8.00	4.45
San Francisco	do	362	.50	11.10	4.79
Stockton	do	358	.45	10.10	4.03
Los Angeles	do	432	.60	9.80	3.54
Horses.			*Per car.*[b]	*Per car.*[b]	*Per car.*[b]
Seattle	Oregon, Washington, and Idaho.	509	12.00	117.96	82.27
Tacoma	do	508	12.00	117.96	81.45
Seattle and Tacoma	Montana	473	111.60	232.30	144.67
Do	North Dakota	71	232.30	269.00	249.63
Do	South Dakota	31	253.00	276.00	261.99
Portland	Oregon, Washington, and Idaho.	1,188	8.90	117.10	59.68
Do	Montana	343	111.60	232.30	141.75
Do	North Dakota	39	233.50	264.00	251.28
San Francisco	California	56	12.10	142.50	49.65
Los Angeles	do	44	12.50	96.00	61.79
Cattle.					
Seattle	Oregon, Washington, and Idaho.	509	10.40	110.16	72.52
Tacoma	do	508	10.40	110.16	71.80
Seattle and Tacoma	Montana	475	97.00	202.00	126.11
Do	North Dakota	71	203.00	234.00	217.57
Do	South Dakota	29	222.40	240.00	228.37
Portland	Oregon, Washington, and Idaho.	1,186	7.80	101.80	53.34
Do	Montana	343	97.00	202.00	123.24
Do	North Dakota	39	203.00	229.60	218.50
San Francisco	California	57	12.10	127.50	47.86
Los Angeles	do	24	62.00	70.00	66.54
Sheep.					
Seattle	Oregon, Washington, and Idaho.	509	10.40	110.16	72.52
Tacoma	do	508	10.40	110.16	71.80
Seattle and Tacoma	Montana	475	97.00	202.00	126.11
Do	North Dakota	71	203.00	234.00	209.58
Do	South Dakota	29	222.40	240.00	228.37
Portland	Oregon, Washington, and Idaho.	1,186	7.80	101.80	53.34
Do	Montana	343	97.00	202.00	123.24
Do	North Dakota	39	203.00	204.00	203.95
San Francisco	California	57	8.47	100.50	38.74
Los Angeles	do	26	50.00	53.60	50.28
Hogs.					
Seattle	Oregon, Washington, and Idaho.	545	10.40	185.00	79.18
Tacoma	do	544	10.40	185.00	78.52
Seattle and Tacoma	Montana	475	97.00	202.00	126.11
Do	North Dakota	71	203.00	234.00	209.58
Do	South Dakota	29	222.40	240.00	228.37
Portland	Oregon, Washington, and Idaho.	1,186	7.80	101.80	53.34
Do	Montana	343	97.00	202.00	123.24
Do	North Dakota	39	203.00	204.00	203.95
San Francisco	California	57	12.10	100.50	41.43
Los Angeles	do	26	50.00	53.60	50.28

[a] Compiled from official tariffs.
[b] 36 feet 6 inches long inside.

TABLE 42.—*Average number of live stock per car as received at Portland for three months.*[a]

Month.	Cattle.	Hogs.	Sheep.[b]	Horses and mules.
October, 1909	25	83	155	16
July, 1910	27	82	161	12
October, 1910	26	87	160	11
Average[c]	26	84	158	14

[a] Compiled from reports of the Union Stockyards, Portland.
[b] Usually in double-deck cars.
[c] In computing each of these averages the figures for each month were weighted in proportion to the number of cars and the number of animals received that month.

TABLE 43.—*Average weight per head of cattle, hogs, lambs, and sheep sold at Union Stockyards, Portland, during the year ending September, 1910.*[a]

Year and month.	Cattle (steers).	Hogs.	Lambs.	Sheep.
1909.	*Pounds.*	*Pounds.*	*Pounds.*	*Pounds.*
October	1,035	205	69	100
November	1,078	206	72	83
December	1,116	195	69	113
1910.				
January	1,153	190	67	126
February	1,119	176	70	105
March	1,139	194	.....	101
April	1,087	210	67	94
May	1,162	200	65	103
June	1,127	212	64	97
July	1,140	200	69	110
August	1,091	219	70	99
September	1,116	237	78	109
Mean	1,114	204	69	103

[a] For hogs averages were taken from the First Annual Report of the Portland Union Stockyards, for other animals averages were computed from daily reports for the first week each month as given in the Oregon Daily Journal (Portland).

TON-MILE AVERAGES FOR SELECTED RAILROADS.

For some of the principal railroads serving the Pacific coast region statistics are available showing the average rate per ton per mile for all grain carried and the average length of haul. On the five railroads designated in Table 44 as A, B, C, D, and E the average receipts for carrying 1 short ton of grain 1 mile was 1.19 cents, and the average distance a ton was carried equaled 216 miles.

The rate per ton per mile increases as the distance carried grows less. For the railroad designated as A in Table 45 the rate per ton-mile for grain was from 0.99 to 1.01 cent for distances ranging from 381 to 400 miles, inclusive, and from 6.25 to 8.89 cents for distances not greater than 20 miles.

TABLE 44.—*Average freight receipts per ton per mile and average length of haul for grain carried in carload lots on five selected railroads in Pacific coast States for the year ending June 30, 1909.*[a]

Railroad.	Receipts per ton per mile.	Average length of haul.
	Cents.	*Miles.*
A	1.25	227
B	1.46	168
A and B	1.30	209
C	1.12	214
D	1.91	51
E	.88	451
All 5 railroads	1.19	216

[a] Compiled from official reports made to the Interstate Commerce Commission. The railroad indicated here by A is the same as A in Table 45.

TABLE 45.—*Average freight rates per ton per mile for different distances for grain carried on three railroads to Portland from points in Oregon and Washington, 1910.*[a]

Miles from Portland.	Railroad.						Miles from Portland.	Railroad.					
	A.		F.		G.			A.		F.		G.	
	Lowest.	Highest.	Lowest.	Highest.	Lowest.	Highest.		Lowest.	Highest.	Lowest.	Highest.	Lowest.	Highest.
	Cts.	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*		*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*
1–20	6.25	8.89	8.00	8.00	7.69	15.00	201–220	1.27	1.34	1.27	1.27	1.74	1.74
21–40	5.00	5.00	3.68	4.55	4.55	4.55	221–240	1.19	1.19	.....	.....	1.63	1.63
41–60	2.50	2.50	.....	.....	3.21	3.21	241–260	1.19	1.21	1.13	1.13	.....	.....
61–80	.....	.....	2.21	2.21	2.63	2.63	261–280	1.19	1.20	.....	.....	.....	.....
81–100	1.78	1.89	2.37	2.45	2.24	2.24	281–300	1.17	1.19	1.05	1.05	.....	.....
101–120	1.71	1.80	1.68	2.55	.....	.....	301–320	1.13	1.16	.....	.....	1.31	1.31
121–140	1.65	1.68	1.69	2.44	1.95	1.95	321–340	1.09	1.10	.95	.95	.....	.....
141–160	1.60	1.63	1.52	1.52	1.81	1.82	341–360	1.05	1.08	.89	.89	.....	.....
161–180	1.53	1.55	1.48	1.48	1.79	1.80	361–380	1.02	1.04	.91	.91	.....	.....
181–200	1.42	1.42	.....	.....	1.81	1.81	381–400	.99	1.01	.....	.....	.....	.....

[a] Compiled from official tariffs. The railroad indicated here by A is the same as A in Table 44.

ELECTRIC RAILROADS.

The rates charged by interurban electric lines for carrying grain and live stock in the Pacific coast region are illustrated by the figures in Table 46. All the rates in this table apply to local traffic confined to the line on which it originates and represent conditions on purely electric routes.

Many of the electric roads of this region make joint rates with connecting steam roads or steamboat lines, thus facilitating long-distance traffic.

TABLE 46.—*Freight rates for grain and live stock carried in carload lots on electric railroads in Pacific coast States over selected routes, May, 1910.*[a]

Destination and distance.	Grain.				Cattle and horses.				Hogs and sheep.			
	Number of stations.	Rate per ton (2,000 pounds).			Number of stations.	Rate per car (36½ feet long).			Number of stations.	Rate per car (36½ feet long).		
		Lowest.	Highest.	Average.		Lowest.	Highest.	Average.		Lowest.	Highest.	Average.
To Los Angeles from points distant—												
1–10 miles	3	$0.75	$0.75	$0.75	1	$5.90	$5.90	$5.90				
11–20 miles	3	.85	.85	.85								
To Sacramento from points distant—												
11–20 miles	2	1.00	1.00	1.00								
21–30 miles	3	1.00	1.00	1.00	1	17.00	17.00	17.00	1	$13.00	$13.00	$13.00
31–40 miles												
41–50 miles	4	1.00	1.65	1.31	1	20.00	20.00	20.00	1	16.00	16.00	16.00
51–60 miles	2	1.70	1.75	1.72	2	25.00	28.00	26.50	2	20.00	22.00	21.00
61–70 miles	2	1.75	1.85	1.80	1	31.00	31.00	31.00	1	24.00	24.00	24.00
71–80 miles	3	1.75	1.95	1.85	1	35.00	35.00	35.00	1	28.00	28.00	28.00
81–90 miles	1	1.95	1.95	1.95	1	38.00	38.00	38.00	1	30.00	30.00	30.00
To Portland from points distant—												
41–50 miles	1	1.60	1.60	1.60	1	18.92	18.92	18.92	1	18.92	18.92	18.92
To Tacoma from points distant—												
1–10 miles	4	.60	.60	.60								
11–20 miles	9	.80	.80	.80								
21–30 miles	8	.80	1.00	.95								
31–40 miles	6	1.00	1.00	1.00								
To Seattle from points distant—												
1–10 miles	9	.60	.80	.64								
11–20 miles	8	.80	.80	.80								
21–30 miles	7	.80	1.00	.91								
31–40 miles	3	1.00	1.00	1.00								
To Spokane from points distant—												
1–10 miles	15	.60	.60	.60	15	10.00	10.00	10.00	15	10.00	10.00	10.00
11–20 miles	16	.80	1.20	.94	16	12.00	14.00	12.86	16	12.00	14.00	12.86
21–30 miles	14	1.20	1.40	1.34	14	14.00	18.50	16.66	14	14.00	18.50	16.66
31–40 miles	16	1.40	1.80	1.58	16	18.50	23.00	21.27	16	18.50	23.00	21.27
41–50 miles	11	1.80	1.80	1.80	11	21.60	29.00	23.00	11	21.60	29.00	23.00
51–60 miles	11	1.80	2.00	1.93	11	23.20	29.00	26.67	11	23.20	29.00	26.67
61–70 miles	9	2.00	2.20	2.11	9	25.00	29.00	28.61	9	25.00	29.00	28.61
71–80 miles	6	2.20	2.20	2.20	6	29.00	29.00	29.00	6	29.00	29.00	29.00
81–90 miles	3	2.20	2.25	2.23	3	29.00	29.00	29.00	3	29.00	29.00	29.00

[a] Compiled from official tariffs.

CHARGES BY RIVER.

Freight rates charged by steamboat lines for carrying grain to Portland and to three California markets are shown in Table 47. On the upper Sacramento River the rate from Red Bluff, the head of navigation, to San Francisco, a distance of about 387 miles, was in 1910 equivalent to 9 cents per bushel for wheat or 7.2 cents for barley. The rate from Stockton to San Francisco was less than 2 cents per bushel for wheat and slightly more than 1.5 cent for barley. River steamers (and the portage railway around the falls) charged for wheat 9.6 to 10.5 cents per bushel between Lewiston, Idaho, and Portland.

TABLE 47.—*Freight rates on wheat and barley carried on inland waterways in the Pacific coast region, 1910.*[a]

Route.	Per ton (2,000 pounds).	Cents per bushel.	
		Wheat.	Barley.
To San Francisco from—			
San Joaquin River and its tributaries—	*Dollars.*	*Cents.*	*Cents.*
Stockton	$0.65	1.95	1.56
Average, 94 landings	1.24	3.72	2.98
Sacramento River and its tributaries—			
Upper river—			
Red Bluff	3.00	9.00	7.20
Marysville	2.30	6.90	5.52
Colusa	2.00	6.00	4.80
Sacramento	1.25–1.50	3.75–4.50	3.00–3.60
Lower river—			
Walnut Grove, Rio Vista, and Courtland	1.10	3.30	2.64
To Stockton from—			
93 landings on San Joaquin River and tributaries (average)	1.24	3.72	2.98
To Sacramento from—			
Upper Sacramento River and its tributaries—			
Red Bluff	2.50	7.50	6.00
Colusa	1.25	3.75	3.00
Lower Sacramento River—			
Walnut Grove, Rio Vista, and Courtland	1.10	3.30	2.64
To Portland from—			
Lewiston, Idaho	3.20–3.50	9.60–10.50	7.68–8.40
Wallulu, Wash	2.50–2.80	7.50– 8.40	6.00–6.72
The Dalles, Oreg	1.50	4.50	3.60

[a] As quoted by transportation companies.

LIVE STOCK FOR ALASKA.

Conditions of transport are such that high freight rates are paid on live stock over the coastwise routes from Seattle and Tacoma to Alaska. The published rates for cattle in June, 1910, ranged from $17 per head for shipments to southeastern Alaska to $50 per head for cattle sent to Nome, St. Michael, and the other Bering Sea ports indicated in Table 48.

It is reported that the quality of the animals shipped to Alaska is high, for it costs as much to ship a poor animal as a good one, and the additional price is relatively small compared with the total cost of the animal delivered in Alaska.

TABLE 48.—*Freight rates on live stock carried by coastwise steamers from Tacoma or Seattle to Alaska, June, 1910.*[a]

[Dollars per head.]

To—	Bulls, stallions, and jacks.		Calves.		Cattle, donkeys, and Shetland ponies (not elsewhere specified).		Colts.		Dogs.	Hogs.	Horses and mules (not elsewhere specified).	Sheep, lambs, and goats.
	12 to 18 months old.[b]	Over 18 months old.	Under 6 months old.	6 to 12 months old.[c]	In lots of less than 10.	In lots of 10 or more.	Under 6 months old.	6 to 12 months old.[d]				
Southeastern Alaska:												
Ketchikan	$20.00	$25.00	$5.00	$10.00	$17.00	$17.00	$10.00	$15.00	$5.00	$3.00	$20.00	$2.00
Juneau, Douglas, Treadwell, and Wrangell	20.00	25.00	5.00	10.00	17.00	17.00	10.00	15.00	5.00	3.00	20.00	2.00
Haines and Skagway	20.00	25.00	5.00	10.00	17.00	17.00	10.00	15.00	5.00	3.00	20.00	2.00
Wrangell common points, including Prince of Wales Island	20.00	25.00	5.00	10.00	17.00	17.00	10.00	15.00	5.00	3.00	20.00	2.00
Juneau common points, including Sitka	20.00	25.00	5.00	10.00	17.00	17.00	10.00	15.00	5.00	3.00	20.00	2.00
Skagway common points, including Pyramid Harbor	20.00	25.00	5.00	10.00	17.00	17.00	10.00	15.00	5.00	3.00	20.00	2.00
Southwestern Alaska:												
Cordova, Seward, and common points	25.00	35.00	5.00	7.50	30.00	25.00	12.00	16.00	5.00	5.00	.....	3.00
Port Graham and common points	25.00	35.00	5.00	7.50	30.00	25.00	12.00	16.00	5.00	5.00	.....	3.50
Iliamna and common points	25.00	35.00	5.00	7.50	30.00	25.00	12.00	16.00	5.00	5.00	.....	4.00
Kodiak and common points	25.00	35.00	5.00	7.50	30.00	25.00	12.00	16.00	5.00	5.00	.....	3.50
Bering Sea ports:												
Nome, Solomon, Dickson Bluff, and St. Michael	.....	.....	.....	.....	[e]50.00	[e]50.00	.....	.....	5.00	7.50	[f]60.00	5.00
Minor ports (not including lighterage)	.....	.....	.....	.....	[e]50.00	[e]50.00	.....	.....	5.00	7.50	[f]60.00	5.00

[a] As quoted by steamship companies.
[b] Under 12 months classed as calves or colts.
[c] Over 12 months classed as cattle.
[d] Over 12 months classed as horses and mules.
[e] Cattle only.
[f] When carried on freight steamers. The rate for horses and mules carried on passenger steamers was $75 per head.

GRAIN FOR ASIA, MEXICO, AND ALASKA.

A relatively small amount of grain is exported to China and Japan. Of the total amount of wheat shipped to foreign and domestic destinations from Portland and Puget Sound during the four years ending June 30, 1909, about 10 per cent was consigned to Asia. In 1910 the shipments to Asia from these ports amounted to only about 1.5 per cent of the total. Practically no barley has been exported recently from these ports across the Pacific; hence, many of the rates quoted in Table 49 represent either nominal quotations or apply to small shipments. The rates to Salina Cruz represent the cost over one of the three principal parts of the Tehuantepec route.[a]

[a] See p. 18.

Rates on grain to Alaska are among the highest quoted in the table, the charge to southeastern Alaska from Puget Sound being from $4 to $9 per ton, and to southwestern Alaska from $11 to $16 per ton, while the rate on barley to Bering Sea ports was quoted at $17 per ton, equivalent to about 41 cents per bushel.

All grain rates in this bulletin refer to grain in sacks. Rates on flour to the points mentioned in Table 49 were approximately the same in most cases as wheat.

TABLE 49.—*Ocean freight rates on flour and grain from Pacific coast ports of the United States over coastwise and trans-Pacific routes, for the year ending June 30, 1910.*[a]

Route.	Flour, per ton (2,000 pounds).	Wheat.		Barley.	
		Per ton (2,000 pounds).	Equivalent rate per bushel.	Per ton (2,000 pounds).	Equivalent rate per bushel.
From Tacoma and Seattle to—					
Alaska—					
Southeastern ports	$4.00–$9.00	$4.00–$9.00	$0.12–$0.27	$4.00–$9.00	$0.10–$0.22
Southwestern ports	11.00–16.00	11.00–16.00	.33– .48	11.00–16.00	.26– .38
Bering Sea ports				17.00	.41
California—					
San Francisco	2.50	2.00	.06	2.00	.05
San Pedro	3.00	4.00	.12	4.00	.10
San Diego	3.50	4.00	.12	4.00	.10
Hawaii—Honolulu	3.50	3.50	.10	3.50	.08
Mexico—Salina Cruz	4.50– 7.00	4.75– 5.00	.14– .15	4.75– 5.00	.11– .12
From Portland to—					
California—San Francisco	2.50	1.25– 2.00	.04– .06		
Hawaii—Honolulu	4.50	4.50	.14	4.50	.11
Mexico—Salina Cruz	4.50– 9.00	4.75– 7.00	.14– .21	6.00– 9.00	.14– .22
From San Francisco to—					
Hawaii—Honolulu	50– 3.50	2.50– 3.50	.08– .10	2.50– 3.50	.06– .08
Mexico—Salina Cruz	2.50– 7.00	2.75– 5.00	.08– .15	4.00– 7.00	.10– .17
From San Francisco, Portland, Tacoma, and Seattle to—					
China—Hongkong	3.00	3.00	.09	5.50	.13
Japan—Yokohama	3.00	3.00	.09	5.50	.13
Philippine Islands—Manila	4.00	4.00	.12	5.50	.13

[a] Rates as quoted by steamship companies.

UNITED KINGDOM.

Freight rates to the United Kingdom, the principal destination of the wheat exported from the Pacific coast, declined from an average of 51 cents per bushel in 1873–1875 to 15 cents per bushel during the five years ending in the summer of 1910. The exports from California were relatively unimportant for the last several years mentioned in Table 50, but the comparison just made shows a great reduction in freight within 40 years. Rates from Portland and Puget Sound during the last few years shown in the table were approximately 4 shillings per long ton (about 2½ cents per bushel) more than from San Francisco to the same destinations. The traffic from the northern

ports being relatively new, it is not possible to compare recent rates with those of the seventies.

The rates quoted in Table 50 apply to wheat in sacks carried from San Francisco to any one of a number of ports in the United Kingdom and the northern part of the continent of Europe. Among the ports included are practically all those of the United Kingdom easily accessible to deep-draft vessels, also Havre, Antwerp, Dunkirk, and Hamburg.

TABLE 50.—*Ocean freight rates on wheat from San Francisco to the United Kingdom, for orders, 1873–1910.*[a]

[All values are gold.]

Year ending June—	Original quotations, shillings and pence per ton (2,240 pounds).			Equivalent, cents per bushel.[b]		
	Average.	Highest.	Lowest.	Average.	Highest.	Lowest.
	s. d.	*s. d.*	*s. d.*	*Cents.*	*Cents.*	*Cents.*
1873	85 0	113 0	60 0	54.6	72.6	38.6
1874	82 6	105 0	70 0	53.0	67.5	45.0
1875	70 0	91 6	40 0	45.0	58.8	25.7
1876	50 0	62 6	40 0	32.1	40.2	25.7
1877	60 0	72 6	37 6	38.6	46.6	24.1
1878	40 0	50 0	32 6	25.7	32.1	20.9
1879	50 0	60 0	30 0	32.1	38.6	19.3
1880	55 0	70 0	39 0	35.4	45.0	25.1
1881	59 11	84 0	57 6	38.5	54.0	37.0
1882	66 5	86 6	43 9	42.7	55.6	28.1
1883	45 1	61 3	32 6	29.0	39.4	20.9
1884	30 1	57 6	20 0	19.3	37.0	12.9
1885	36 1	47 6	25 0	23.2	30.5	16.1
1886	30 10	37 6	25 0	19.8	24.1	16.1
1887	27 1	34 0	22 6	17.4	21.9	14.5
1888	25 10	32 6	21 3	16.6	20.9	13.7
1889	30 11	42 6	22 6	19.9	27.3	14.5
1890	35 4	41 3	29 3	22.7	26.5	18.8
1891	40 4	45 0	33 9	25.9	28.9	21.7
1892	31 5	50 0	16 6	20.2	32.1	10.6
1893	21 1	28 9	15 0	13.6	18.5	9.6
1894	26 5	35 6	21 3	17.0	22.8	13.7
1895	26 3	35 0	22 6	16.9	22.5	14.5
1896	26 9	38 9	20 0	17.2	24.9	12.9
1897	25 0	31 3	16 3	16.1	20.1	10.4
1898	20 8	36 3	17 0	13.3	23.3	10.9
1899	26 0	33 9	22 6	16.7	21.7	14.5
1900	37 6	41 3	31 3	24.1	26.5	20.1
1901	38 9	50 0	32 6	24.9	32.1	20.9
1902	30 0	38 9	22 0	19.3	24.9	14.1
1903	17 3	28 0	10 6	11.1	18.0	6.8
1904	14 9	18 9	10 6	9.5	12.1	6.8
1905	21 8	24 3	16 3	13.9	15.6	10.4
1906	22 6	23 9	.....	14.5	15.3	.....
1907	23 0	23 9	22 6	14.8	15.3	14.5
1908	23 9	25 0	20 0	15.3	16.1	12.9
1909	23 6	26 3	13 9	15.1	16.9	8.8
1910	23 9	25 0	15 0	15.3	16.1	9.6
Average:						
1873–1875	79 2	103 2	56 8	50.9	66.3	36.4
1876–1880	51 0	63 0	35 10	32.8	40.5	23.0
1881–1885	47 6	67 4	35 9	30.5	43.3	23.0
1886–1890	30 0	37 7	24 1	19.3	24.1	15.5
1891–1895	29 1	38 10	21 10	18.7	25.0	14.0
1896–1900	27 2	36 3	21 5	17.5	23.3	13.8
1901–1905	24 6	31 11	18 4	15.7	20.5	11.8
1906–1910	23 4	23 9	17 10	15.0	15.9	11.4

[a] Compiled from the annual report of the San Francisco Merchants' Exchange for 1908–9.
[b] Reduced to cents by taking 1 pound sterling as equivalent to $4.80, in accordance with a commercial custom.

LOWER RATES TO ENGLAND THAN TO CHICAGO.

Comparisons in Table 51 show that the cost of transporting wheat from four leading shipping points of the Pacific coast grain region in the first part of 1910, and no doubt in earlier years, was greater to Chicago than to the ports in England and on the continent of Europe to which the general rate to "Cork for orders" applies.

TABLE 51.—*Freight rates on wheat from four points in the grain-producing regions of the Pacific coast to England and to Chicago for the first half of 1910.*

[Rates are in cents per bushel.]

From—	To England ("Cork for orders").					To Chicago.[b]
	Via—	From point of origin to United States seaport.	From United States seaport to "Cork for orders."		Total to England.[a]	
			Ocean freight rate.[a]	Marine insurance, mean of high and low.[a]		
		Cents.	*Cents.*	*Cents.*	*Cents.*	*Cents.*
Sacramento	San Francisco	[c] 3.75–4.50	10–15	3	16.75–22.5	39.0
Pendleton, Oreg.	Portland, Tacoma, or Seattle.	[b] 8.25	13–18	3	24.25–29.25	34.5
Spokane		[b] 10.2	13–18	3	26.2–31.2	34.5
Walla Walla		[b] 8.25	13–18	3	24.25–29.25	34.5

[a] Approximate.
[b] By railroads. Rates from official tariffs.
[c] By river boats.

RATES FROM VARIOUS COUNTRIES.

For the year ending June 30, 1910, the published rates on wheat cargoes from Australia to England ranged from 13.6 to 17.5 cents per bushel, not widely different from the freights of that season on shipments from Portland and Puget Sound to the United Kingdom.

The rates to the same country from Odessa averaged slightly less than those from Buenos Aires and other ports on the lower River Plate, and about 1 cent less than the rates from Argentine ports on the upper River Plate.

From Kurrachee, one of the principal wheat ports of India, the rates for the year covered by Table 52 were generally about 9 or 10 cents per bushel.

TABLE 52.—*Mean monthly quotations of ocean freight rates on wheat from Argentina, India, Australia, and Russia to the United Kingdom, for the year ending June 30, 1910.*[a]

Year and month.	Original quotations in shillings and pence per ton of 2,240 pounds.						Equivalent, cents per bushel of 60 pounds.[b]					
	From Argentina to the United Kingdom, for orders.			From Kurrachee, India, to United Kingdom.	From Australia to United Kingdom.	From Odessa to London, Hull, Antwerp, or Rotterdam.	From Argentina to the United Kingdom, for orders.			From Kurrachee, India, to United Kingdom.	From Australia to United Kingdom.	From Odessa to London, Hull, Antwerp, or Rotterdam.
	Upper River Plate.	Lower River Plate.	Bahia Blanca.				Upper River Plate.	Lower River Plate.	Bahia Blanca.			
1909.	*s. d.*	*s. d.*	*s. d.*	*s. d.*	*s. d.*	*s. d.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*
July	12 5⅜	10 7½	11 2¼	14 0	.....	8 9¾	8.0	6.8	7.2	9.0	.....	5.7
August	9 3	7 6	8 5⅜	.....	.....	8 9	5.9	4.8	5.4	.....	.....	5.6
September	9 3	7 8⅝	8 4½	.....	.....	8 1½	5.9	5.0	5.4	.....	.....	5.2
October	8 4⅛	7 0	7 11¼	16 0	.....	8 3	5.4	4.5	5.1	10.3	.....	5.3
November	10 4⅜	8 8⅖	9 4⅘	15 0	27 3	.....	6.7	5.6	6.0	9.6	17.5	.....
December	12 5¼	10 4½	11 6	15 6	26 9	7 5	8.0	6.7	7.4	10.0	17.2	4.8
1910.												
January	11 7⅛	10 3¾	11 4½	15 6	.....	7 9	7.5	6.6	7.3	10.0	.....	5.0
February	10 3¾	9 3	9 9⅜	.....	.....	8 0	6.6	5.9	6.3	.....	.....	5.1
March	8 3	7 4½	8 0⅗	14 0	21 1½	9 0	5.3	4.7	5.2	9.0	13.6	5.8
April	8 7⅛	7 7½	8 11¼	.....	.....	8 10	5.5	4.9	5.7	.....	.....	5.7
May	8 1⅝	6 9⅗	8 1⅕	14 0	.....	7 0	5.2	4.4	5.2	9.0	.....	4.5
June	9 7½	7 8¼	8 4½	11 0	22 7½	6 3	6.2	4.9	5.4	7.1	14.5	4.0
Mean for year	9 10.7	8 4.9	9 3.5	14 4.5	24 5.25	8 0.2	6.4	5.4	6.0	9.2	15.7	5.2

[a] Compiled from Broomhall's Corn Trade News.
[b] Reduced to cents by taking 1 pound sterling as equivalent to $4.80, in accordance with a commercial custom.

TON-MILE RATES OF VARIOUS CARRIERS.

The vast difference in the cost of transport per ton per mile for different carriers, all of which share in moving Pacific coast wheat to market, is illustrated in Table 53. The highest rates are those computed upon the average cost to the farmer for hauling his wheat to the shipping point. This ranged in 1906 from about 14 cents per ton-mile in California to about 25 cents in Washington. The other extreme is illustrated by the rate of from 0.02 to 0.03 of 1 cent per ton-mile from Tacoma to Liverpool.

TABLE 53.—*Average freight charge on Pacific coast wheat per ton per mile, over selected routes, in 1910.*

[Based upon tons of 2,000 pounds and statute miles.]

Route.	Cents per ton per mile.
By wagon, from farms to shipping points (in 1906): [a]	
Washington	24.841
Idaho	20.952
Oregon	17.388
California	14.331
By electric railroad:	
From Salem, Oreg., to Portland, Oreg	3.219
From Marysville, Cal., to Sacramento, Cal	2.392
From Chico, Cal., to Sacramento, Cal	2.205
From Moscow, Idaho, to Spokane, Wash	1.429
By steam railroad:	
From Ellensburg, Wash., to Tacoma, Wash	1.870
From Merced, Cal., to San Francisco, Cal	1.513
From Lewiston, Idaho, to Portland, Oreg	.952
From Portland, Oreg., to San Francisco, Cal	.402
By river:	
From The Dalles, Oreg., to Portland, Oreg	1.316
From Sacramento, Cal., to San Francisco, Cal	1.000–1.200
From Red Bluff, Cal., to Sacramento, Cal	1.020
From Lewiston, Idaho, to Portland, Oreg	.823–.900
By coastwise steamships:	
From Seattle, Wash., to Skagway, Alaska	.505
From Portland, Oreg., to San Francisco, Cal	.166–.266
By steamships:	
From Tacoma, Wash., to Liverpool, England, via Magellan Straits	.0363–.0373
By sail vessels:	
From Tacoma, Wash., to Liverpool, England, via Cape Horn	.0210–.0294

[a] Bulletin No. 49, Bureau of Statistics, United States Department of Agriculture. Page 33.

CHARGES FOR NINE SELECTED CARGOES.

The higher rates charged by steamers as compared with sail vessels are shown in Table 54. The steamers also earned more freight per cargo, since they carried heavier loads; and, on account of the shorter time of transit, the gross earnings of the steamers averaged much more per day.

TABLE 54.—*Duration of voyage, capacity of vessel, size of load, and freight earned for selected cargoes of grain carried from United States Pacific coast ports to Europe, season of 1909–10.*[a]

SAIL VESSELS.

Item.	La Rochejaquelein.	Duquesne.	Zenita.	Leon Blum.	Buffon.
Kind of grain carried	Wheat	Wheat	Wheat	Barley	Wheat.
Departed:					
From	Portland	Portland	Tacoma	San Francisco.	Tacoma.
Date	Dec. 19, 1909	Oct. 26, 1909	Oct. 29, 1909	Jan. 18, 1910	Nov. 5, 1909.
Called for orders:					
At	Falmouth, England.	Falmouth, England.	Queenstown, Ireland.	Falmouth, England.	Queenstown, Ireland.
Date	Apr. 18, 1910	Apr. 18, 1910	Apr. 21, 1910	May 30, 1910	May 7, 1910.
Ordered to discharge at	Barry, Wales	Antwerp, Belgium.	Antwerp, Belgium.	Grimsby, England.	Cardiff, Wales.
Length of voyage to port of call.	121 days	175 days	175 days	133 days	184 days.
Approximate total length of voyage.	127 days	182 days	182 days	140 days	185 days.
Capacity of vessel	1,954 tons [b]	1,926 tons [b]	1,625 tons [b]	2,316 tons [b]	1,771 tons.[b]
Size of cargo	2,967 tons [c]	2,961 tons [c]	2,689 tons [c]	3,089 tons [c]	3,251 tons.[c]
Freight:					
Rate	27s.6d. per ton[c]. 17.68 cents per bushel.	27s.6d. per ton[c]. 17.68 cents per bushel.	27s.6d. per ton[c]. 17.68 cents per bushel.	23s.9d. per ton[c]. 12.21 cents per bushel.	27s.6d. per ton.[c] 17.68 cents per bushel.
Total amount	$19,600	$19,500	$17,700	$17,600	$21,500.
Earnings per day of voyage.	$154	$107	$97	$126	$116.

[a] Compiled from Dornbusch's Floating Cargoes Evening List (London) and the Daily Commercial News (San Francisco).

[b] Net tons of 100 cubic feet.

[c] Tons of 2,240 pounds.

TABLE 54.—*Duration of voyage, capacity of vessel, size of load, and freight earned for selected cargoes of grain carried from United States Pacific coast ports to Europe, season of 1909–10*—Continued.

STEAMERS.

Item.	Baron Napier.	Riverton.	Earl of Douglas.	Titania.
Kind of grain carried	Wheat	Wheat	Wheat	Wheat.
Departed:				
From	Tacoma	Tacoma	Portland	Portland.
Date	Nov. 7, 1909	Dec. 10, 1909	Oct. 10, 1909	Oct. 26, 1909.
Called for orders:				
At	St. Vincent, Cape Verde Islands.	St. Vincent, Cape Verde Islands.	St. Vincent, Cape Verde Islands.	St. Vincent, Cape Verde Islands.
Date	Jan. 13, 1910	Jan. 24, 1910	Dec. 17, 1909	Jan. 9, 1910.
Ordered to discharge at	Hull, England	Antwerp, Belgium	Belfast, Ireland	Cardiff, Wales.
Length of voyage to port of call.	68 days	46 days	69 days	76 days.
Approximate total length of voyage.	83 days	61 days	84 days	91 days.
Capacity of vessel	3,159 tons [a]	2,236 tons [a]	2,761 tons [a]	2,315 tons.[a]
Size of cargo	6,597 tons [b]	3,738 tons [b]	6,220 tons [b]	5,159 tons.[b]
Freight:				
Rate	28s. per ton [b] / 18 cents per bushel.	28s. 9d. per ton [b] / 18.48 cents per bushel.	27s. 6d per ton [b] / 17.68 cents per bushel.	28s. 9d per ton.[b] / 18.48 cents per bushel.
Total amount	$44,300	$25,800	$41,100	$35,600.
Earnings per day of voyage.	$534	$423	$489	$391.

[a] Net tons of 100 cubic feet. [b] Tons of 2,240 pounds.

Nevertheless, freight rates on grain over this route have not been sufficiently high to attract many steamers. In recent years their number has increased, but the coal consumption and the cost of the engine room force for voyages of from 2 to 3 months tend to discourage steamships from bidding for this traffic.

TRANSPORT FACILITIES.

ROUTES BETWEEN THE ATLANTIC AND PACIFIC COASTS.

The lines of transportation connecting the Atlantic and Pacific coasts of the United States may be divided into three classes—all-water routes, combined water and rail, and all-rail lines. The last-named are comparatively new; the first through railroad line to the Pacific coast was completed in 1869, within the memory of many persons now living. About four years later the first transcontinental railroad to enter Portland was opened for traffic, and in a few more years the line between that city and San Francisco was completed.

A simple way to enumerate the different railroad lines which connect the Pacific coast with the Mississippi Valley is to follow, on a map, the crest of the Rocky Mountains from north to south, noting the different transcontinental railroad lines which cross the Great Divide. There are at least eight in all, including one in Canada. Three cross the Rockies in Montana, three others use mountain passes in southern Wyoming, Colorado, and northern New Mexico, respectively, and another follows a route across southern New Mexico.

There are at least four rail-and-water lines over which considerable traffic passes between the East and the Pacific coast. The most northerly of these is the line of which the Great Lakes form a part. California fruits and many other commodities, transferred to boats at Duluth, are carried to such eastern ports as Cleveland, and forwarded thence by rail to their destinations; there is a contrary movement of some commodities over this route. A second route is by coastwise vessels between North Atlantic ports and Galveston, and by rail between Galveston and the Pacific coast; a third crosses the Isthmus of Tehuantepec, in Mexico; and a fourth, the Isthmus of Panama.

The third class of routes between the two coasts extends around the southern part of South America. Sailing vessels regularly go around Cape Horn, but steamers may use the shorter passage through the Strait of Magellan.

TIME OF TRANSIT.

The time required to carry freight between San Francisco and New York varies from 11 to 12 days by fast freight trains; a period about 10 times as long is required by ships sailing around Cape Horn. The rail-and-water routes by Tehuantepec or Panama require about one month. (Table 55.)

TABLE 55.—*Approximate usual time of freight transit between New York and San Francisco, over various routes, 1910.*[a]

Via—	Days.
Fast freight, all rail	11–12
Coastwise steamers, New York to Galveston, thence by rail	14–15
Isthmus of Panama	25–30
Isthmus of Tehuantepec	30
Cape Horn, by sail vessels:	
San Francisco to New York	110–120
New York to San Francisco	120–130

[a] Chiefly as reported by transportation companies.

RAILROAD MILEAGE.

The length of railroads in California, Oregon, Washington, and Idaho increased from less than 7,000 miles in 1888 to more than 16,000 miles in 1909, a rate of increase greater than that for the United States as a whole. In 1888 less than 5 per cent of the railroad mileage of the United States was in the four States just mentioned, and in 1909 they had almost 7 per cent of the total mileage. (Table 56.)

TABLE 56.—*Mileage of railroads in California, Oregon, Washington, Idaho, and the entire United States, 1888–1909.*[a]

On June 30—	California.		Oregon.		Washington.		Idaho.		Total California, Oregon, Washington, and Idaho.		Total United States (miles).
	Miles.	Per cent of United States.	Miles.	Per cent of United States.	Miles.	Per cent of United States.	Miles.	Per cent of United States.	Miles.	Per cent of United States.	
1888	3,713	2.48	1,312	0.88	986	0.66	806	0.54	6,817	4.56	149,902
1889	4,250	2.69	1,504	.95	1,357	.86	845	.54	7,955	5.04	157,759
1890	4,356	2.66	1,428	.87	1,783	1.09	941	.58	8,509	5.20	163,597
1891	4,574	2.73	1,448	.86	2,096	1.24	949	.56	9,066	5.39	168,403
1892	4,648	2.71	1,523	.89	2,211	1.29	991	.58	9,372	5.47	171,564
1893	4,771	2.70	1,504	.85	2,767	1.57	1,084	.61	10,125	5.73	176,461
1894	4,861	2.72	1,529	.85	2,811	1.57	1,088	.61	10,289	5.75	178,709
1895	4,853	2.69	1,526	.84	2,840	1.57	1,085	.60	10,299	5.70	180,657
1896	5,055	2.77	1,513	.83	2,837	1.55	1,085	.59	10,491	5.74	182,777
1897	5,274	2.86	1,530	.83	2,830	1.53	1,107	.60	10,741	5.82	184,428
1898	5,468	2.94	1,599	.86	2,829	1.52	1,094	.59	10,991	5.91	186,396
1899	5,532	2.92	1,613	.85	2,839	1.50	1,134	.60	11,117	5.87	189,295
1900	5,751	2.97	1,724	.89	2,914	1.51	1,261	.65	11,650	6.02	193,346
1901	5,838	2.96	1,684	.85	3,005	1.52	1,333	.68	11,861	6.01	197,237
1902	5,979	2.95	1,685	.83	3,158	1.56	1,446	.71	12,269	6.05	202,472
1903	6,100	2.93	1,720	.83	3,275	1.57	1,448	.70	12,542	6.03	207,977
1904	6,263	2.93	1,737	.81	3,356	1.57	1,462	.68	12,817	5.99	213,904
1905	6,507	2.98	1,813	.83	3,388	1.55	1,465	.67	13,174	6.03	218,101
1906	6,655	2.97	1,898	.85	3,599	1.60	1,578	.70	13,729	6.12	224,363
1907	6,836	2.97	1,956	.85	3,807	1.66	1,764	.77	14,362	6.25	229,951
1908	7,222	3.09	1,996	.85	4,208	1.80	1,946	.83	15,372	6.57	233,468
1909	7,529	3.18	2,160	.91	4,651	1.96	2,134	.90	16,473	6.95	236,869

[a] "Mileage owned," single track, as reported by the Interstate Commerce Commission.

SOME CONDITIONS OF RAILROAD SERVICE.

Conditions in that part of the United States west of the Rocky Mountains, referred to as Group X, in Table 54, may be taken to represent general conditions in California, Oregon, Washington, and Idaho.

The data in Table 57 show changes in the quantity of freight moved, the average rate of charge for hauling it, and the average length of haul for railroads of Group X and of the entire United States.

For the year ending June 30, 1890, the traffic on the railroads of Group X was equivalent to about 2 billion short tons hauled each an average of 1 mile. In the fiscal year 1909 the traffic had reached practically 11 billion ton-miles or five and a half times the traffic of 1890. For the United States as a whole the traffic in 1909 was nearly three times that of 1890, an increase considerably less than that of the region west of the Rocky Mountains.

Changes in the average revenue for freight per ton per mile may be due to various causes. A change in actual rates for certain commodities may be one leading cause of fluctuations in revenue per ton-mile. On the other hand, an increase in tonnage of commodities which pay low freight rates or a decrease in those paying high rates would tend to make the average receipts for all commodities lower. Again, a marked increase in such articles as groceries and dry goods or a decline in the tonnage of ore and coal would result in a higher

average income per ton-mile. There has been a decline in the ton-mile receipts for both the United States and that part of it west of the Rocky Mountains since 1890. At least part of this decline for the railroads in Group X is due to lower freight rates.

The average length of haul for each railroad is considerably greater in Group X than in the entire United States. Averages for shipments traced from their origin to final destination over different railroads—that is, averages for all railroads taken as one system—are not available for the separate groups; but for the United States as a whole this average was about twice that for individual railroads during 1890–1909. But it may be assumed that such an average would be much nearer the average haul per individual road for the region west of the Rocky Mountains than for the United States as a whole, for the principal railroads of Group X are of such length and so located that a great part of their long-distance traffic may be carried within the boundaries of this group without transfer from one line to another.

TABLE 57.—*Tonnage carried, receipts per ton-mile, and average length of haul of freight on railroads west of the Rocky Mountains and in the entire United States, 1890–1909.*[a]

Year ending June 30—	Group X.[b]			United States.			
	Quantity of freight. (000,000 omitted.)	Average receipts per ton per mile.	Average length of haul for each railroad.	Quantity of freight. (000,000 omitted.)	Average receipts per ton per mile.	Average length of haul for—	
						Each railroad.	All railroads as one system.
	Ton-miles.	*Cent.*	*Miles.*	*Ton-miles.*	*Cent.*	*Miles.*	*Miles.*
1890	1,944	1.651	193.55	76,207	0.941	119.72	.....
1891	2,628	1.631	190.00	81,074	.895	120.00	.....
1892	2,545	1.646	194.31	88,241	.898	124.89	.....
1893	2,723	1.507	204.86	93,588	.878	125.60	.....
1894	2,610	1.343	213.88	80,335	.860	125.88	.....
1895	2,962	1.261	227.02	85,228	.839	122.32	.....
1896	3,109	1.254	211.21	95,328	.806	124.47	.....
1897	3,134	1.275	210.05	95,139	.798	128.27	.....
1898	4,445	1.146	233.66	114,078	.753	129.78	.....
1899	4,841	1.136	233.13	123,667	.724	128.85	246.58
1900	5,887	1.067	237.07	141,597	.729	128.53	242.73
1901	6,809	1.055	238.77	147,077	.750	135.03	251.98
1902	7,794	1.037	230.68	157,289	.757	131.04	239.10
1903	8,725	1.005	225.86	173,221	.763	132.80	242.35
1904	8,902	1.036	208.11	174,522	.780	133.23	244.30
1905	8,867	1.098	209.67	186,463	.766	130.60	237.56
1906	10,151	1.103	209.84	215,878	.748	132.33	240.89
1907	11,252	1.163	204.08	236,601	.759	131.71	242.05
1908	11,023	1.204	198.58	218,382	.754	143.83	253.94
1909	10,944	1.223	181.49	218,803	.763	141.87	251.10
Mean:							
1891–1895	2,694	1.478	206.01	85,693	.874	123.74	.....
1896–1900	4,283	1.176	225.02	113,962	.762	127.98	.....
1901–1905	8,219	1.046	222.62	167,714	.763	132.54	243.06
1906–1909	10,842	1.173	198.50	222,416	.756	137.44	247.00

[a] Compiled from Statistics of Railways in the United States, Interstate Commerce Commission.
[b] Comprising the railroads of Idaho, Utah, Nevada, western New Mexico, Arizona, Washington, Oregon, and California.

HARBORS.

SAN DIEGO AND LOS ANGELES.

The southernmost port of the United States Pacific coast is San Diego, Cal. San Diego Bay affords a good harbor, the shallowest point in the entrance being 25 feet deep at what is called "mean lower low water" and 29¾ feet deep at mean high water. The harbor lines as they were in May, 1910, could accommodate a wharf frontage of 79,000 feet, or about 15 miles, and the wharves then constructed had a total frontage of possibly 4,000 or 5,000 feet. The wharves included one coal pier, one lumber wharf, and three merchandise piers, one of which had railroad tracks on each side to facilitate the transfer of freight between cars and vessels.

North of San Diego is the port of San Pedro. The entrance to the harbor of San Pedro is protected by an artificial breakwater, extending from the north side of the harbor into the ocean. At mean high water the shallowest part of the channel leading to San Pedro is 25 feet and at mean lower low water is 20 feet deep. The wharf frontage at San Pedro in 1910 was 33,312 feet, and there was room along the established harbor lines for more than 100,000 feet in addition. San Pedro, the principal harbor of Los Angeles, is now within the municipal boundaries. Another harbor of Los Angeles is Redondo Beach. The landing facilities here consist of a wharf extending out into the open sea and terminating where the water is from 36 to 48 feet deep. A third port at Los Angeles and one nearer to the business part of the city than San Pedro or Redondo Beach bears the name Port Los Angeles. Here, as at Redondo Beach, the landing facilities consist of a pier extending out into the open sea; the depth at mean lower low water is about 34 feet. A fourth port of Los Angeles is Long Beach, where also a wharf extends out into the open sea and where the depth of water at mean lower low water is given as 25½ feet and at mean high water 30½ feet. Thus Los Angeles has no less than four ports, three of which are especially convenient to coasting vessels or to others which may desire to make but a short stop on the way to other points. In time of storm, however, the harbor of San Pedro would afford a safer landing place.

Between Los Angeles and San Francisco there are several noteworthy ports, among which are Santa Barbara, Port Harford, and Monterey. Port Harford is an important shipping point for oil, situated not far from the oil region of California. Many steamers, especially those in the coastwise trade, burn oil instead of coal.

SAN FRANCISCO BAY.

The entrance to San Francisco Bay may be made through any one of three channels. At mean lower low water the entrance through

the south channel is 36 feet deep on the bar; in the main channel 33 feet, and through the Bonita Channel, on the north side of the entrance, the depth is reported as deep enough for any draft. The wharves of San Francisco, which are under the control of the State Harbor Commission, had in May, 1910, approximately 53,751 linear feet of berth space, and the area of water surface of the docks or slips was 2,871,150 square feet.

The seagoing traffic of San Francisco Bay is shared by Oakland and Alameda, opposite San Francisco, and by a considerable number of minor ports on this bay and its branches, including South Vallejo, Port Costa, and even Antioch, on the San Joaquin River, some 50 miles from San Francisco.

EUREKA.

An important port of California north of San Francisco Bay is Eureka. At mean high water the channel leading into the harbor here is reported to be 24 feet deep, and the distance from the center of the water front of Eureka out to the end of the jetties at the harbor entrance is about $5\frac{1}{2}$ nautical miles.

PORTLAND.

The greatest fresh-water port of the Pacific coast is Portland, Oreg. It is situated on the Willamette River about 97 nautical miles from the open sea, and is reached by a channel which is reported as $27\frac{1}{2}$ feet deep at mean high water and 20 feet at mean lower low water. The wharves of Portland are parallel to the banks of the river; there are few, if any, slips cut into the bank or piers projecting into the river. The harbor front is divided into two general sections, the one above a highway drawbridge being used chiefly by river boats and the other below this bridge having wharves for ocean vessels.

Among the ports of Oregon near the ocean are Marshfield, on Coos Bay, Yaquina, Tillamook, and Astoria. Astoria is at the mouth of the Columbia River and has a harbor, the approach to which is $31\frac{1}{2}$ feet deep in the shallowest place at mean high water and 21 feet deep at mean lower low water. The wharves of the city are about 11 nautical miles from the open sea.

PUGET SOUND.

The leading seaports on Puget Sound are Seattle and Tacoma. The harbor of Seattle is formed by Elliott Bay and is about 122 nautical miles from the open sea. The city's water front extends for about $5\frac{3}{4}$ miles along the shore. Many of the wharves consist of piers built out at right angles to the shore or having slips dredged between. In 1910 a project was under way to open a ship channel

between Elliott Bay and the fresh-water lakes, Union and Washington, that extend around the north and east sides of the city.

The harbor at Tacoma, about 20 nautical miles south of Seattle, consists of Commencement Bay and an inlet called the City Waterway. The wharves, with a few exceptions, are parallel to the shore.

The other seaports of Puget Sound include Port Townsend on the western shore, about 86 nautical miles from the open sea; Bellingham and Everett on the eastern shore, Anacortes on Fidalgo Island, and Olympia at the south about 166 nautical miles from the ocean.

Vancouver, on the Columbia River near the mouth of the Willamette, South Bend on Willapa Bay, and Ocosta in Grays Harbor are seaports of Washington not situated on Puget Sound.

DEPTH OF CHANNELS.

The depths of the channels leading to the harbors mentioned in Table 58 refer only to the time for which the official report, mentioned in the footnote of the table, applies. These depths may be varied from year to year by artificial means or by the working of natural forces. In general, especially for the larger ports, it may be expected that the channel will not be allowed to decrease in depth and will probably be improved to meet the needs of a growing commerce.

The distance from open sea is measured usually from a point at a safe distance outside the entrance of the river, bay, or sound to a central point in the harbor or at the wharves of the port. Owing to the great depth of Puget Sound and San Francisco Bay, the exact depth of channel in its shallowest place leading to the wharves of such ports as Seattle, Tacoma, San Francisco, and Oakland is sometimes omitted from official reports; the statement "Deep enough for any draft" is substituted instead of exact figures.

TABLE 58.—*Depth of channel and distance from open sea for selected ports on the Pacific coast of the United States.*[a]

State and port.	Location.	Distance from open sea.	Depth of channel.		Remarks.
			Mean lower low water.	Mean high water.	
WASHINGTON.		*Nautical miles.*	*Feet.*	*Feet.*	
Olympia	Puget Sound	166.0	12	22	
Tacoma	do	142.1			Deep enough for any draft.
Seattle	do	122.4			Do.
Everett	do	114.7	26	41	
Port Townsend	do	85.7			Do.
Ocosta	Grays Harbor	5.7	19	27¼	
South Bend	Willapa Bay	15.0	16		
Vancouver	Columbia River	91.2	9		
OREGON.					
Portland	Willamette River	97.3	20	27½	
Astoria	Columbia River	11.1	24	31½	
Tillamook	Tillamook Bay	10.6	3½	9¾	
Yaquina	Yaquina Bay	3.7	15	22½	
Marshfield	Coos Bay	11.8	12	17	
CALIFORNIA.					
Eureka	Humboldt Bay	5.5	18½	24	
San Francisco	San Francisco Bay	12.6			Do.
Oakland	do	14.8			Do.
Monterey	Bay of Monterey	[b]3.0			At wharves, 15 to 36 feet deep.
Port Harford	On the sea		27		
Santa Barbara	do		25		
Los Angeles ports:					
Port Los Angeles	do		34		
Redondo Beach	do				At wharves, 36 to 48 feet.
San Pedro	San Pedro Harbor	1.9	20	25	
San Diego	San Diego Bay	6.1	25	29¾	

[a] United States Coast and Geodetic Survey: Depth as given in "Table of depths for channels and harbors" (1910); distances as given in memorandum dated Aug. 2, 1910.
[b] United States Coast Pilot: California, Oregon, and Washington, second edition, 1909, p. 64.

CALIFORNIA RIVERS.

There are three principal systems of inland waterways which afford transportation for the grain and live-stock products of the Pacific Coast States. One system is formed by San Francisco Bay, the Sacramento and San Joaquin Rivers and their tributaries. The Sacramento is navigable as far Red Bluff, 262 miles above its mouth, while the San Joaquin is navigable, at high water, as far as Hills Ferry, 195 miles from the mouth. The channel up to Stockton is open throughout the year. The capacity of a typical steamboat of these rivers may average not far from 30 carloads of grain or potatoes. Often a steamer will tow one or more barges laden with grain or other commodities. In addition to the steamboat and barge lines, a number of launches are engaged in the freight and passenger service between Sacramento or Stockton and the smaller river landings. One line is operated between Stockton and Sacramento. In May, 1910, there were at least nine or ten different lines of steamboats and launches carrying passengers or freight to and from Sacramento.

Another kind of river craft is the scow schooner, a sail vessel common on these rivers and San Francisco Bay.

This water service is especially valuable to a considerable area of rich farming land situated on islands in the deltas of the two rivers. Not only is grain an important product, but potatoes, beans, asparagus, and other vegetables are also shipped in large quantities. Some of these islands have been protected from floods by means of dikes or levees similar to those along the Mississippi River, and at some seasons of the year the level of the river is above the adjoining fields.

The Sacramento and San Joaquin Rivers and the waters connecting them with the ocean formed a highway for gold seekers between San Francisco and such points as Sacramento and Stockton, whence overland journeys were made to the mines. The time of steamboat transit between San Francisco and Sacramento was probably about the same in the early days as now; in 1910 the schedule time for local day boats was 10 hours upstream and 9 hours downstream. When conditions required it, this time could be shortened greatly; in 1851[a] the steamer *New World* made the trip from Sacramento to San Francisco in 6 hours and 20 minutes. In 1851 the fare from San Francisco to Sacramento was $25; in 1910, it was $1.50. In 1850 the steamer *Senator* advertised freight rates from San Francisco to Sacramento: For heavy goods, $2 per 100 pounds; for goods charged according to measurement, 75 cents per cubic foot; for "wet" barrels $6 each and for "dry" barrels $4 each. At this time the bark *Janet* was used as a terminal warehouse and landing place in San Francisco Harbor, wharf facilities being inadequate for the traffic. In 1853 the principal articles carried on the Sacramento River downstream included coal, lumber, and vegetables, while the freight upstream consisted of general merchandise, grain, and fruit.

INLAND WATERWAYS IN OREGON AND WASHINGTON.

Another important system of waterways is that formed by the Columbia, lower Willamette, and Snake Rivers. They afford, with a single interruption at Celilo Falls, a passage for boats as far upstream as Wenatchee in central Washington, on the Wenatchee River, and to a point on Snake River above Lewiston, Idaho. The Willamette is regarded as navigable for about 164 miles, but most of the traffic is confined to that part of the river below Portland.

There are some isolated waterways near the main system of the Columbia and Snake Rivers. One of these consists of Lake Coeur d'Alene and the St. Jo River. This waterway is traversed by small wood-burning steamers which carry package freight and passengers and which connect at Coeur d'Alene with steam and electric railroads.

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[a] Alta California, April 20, 1851.

A third principal system of inland waterways consists of Puget Sound and its numerous arms. On some of the inlets of the Sound, stern-wheel steamers are used, but many of the local steamers are equipped with screw propellers. One of the steamers in the service between Tacoma and Seattle was brought from Superior customs district, through the Great Lakes and St. Lawrence River to the Atlantic Ocean, around South America, and up to Puget Sound. In the passenger service between Tacoma and Seattle, some of the boats make a round trip every two hours.

CARRYING CAPACITY OF VESSELS.

The shifting of the wheat export trade from San Francisco to more northern ports may be taken as one of the reasons for the slight decline in the total tonnage of vessels clearing from San Francisco in the foreign trade and the great increase for Portland and Puget Sound. The total carrying capacity of vessels leaving San Francisco for foreign ports in the fiscal year 1896 was about 1,200,000 net registered tons,[a] and in 1910 almost 900,000 tons. The tonnage clearing for the United Kingdom declined from 300,000 tons to 60,000 tons in the same period, but the tonnage clearing for Asia decreased 30 per cent.

On the other hand, tonnage from Portland and Puget Sound to the United Kingdom, a considerable part of which may be assumed to have served in the grain trade, increased considerably, according to Table 59. Shipping to Asia from these northern ports also increased, the total for 1896 being about 67,000 and for 1910 352,000 net registered tons.[a]

In the trade around Cape Horn between the Atlantic and Pacific ports of the United States the number of voyages decreased from an annual average of from 65 in 1886–90 to 32 in 1906–10; during the same time the average size of a vessel was nearly doubled. (Table 60.)

[a] Net registered tonnage includes the entire inner cubical capacity of a vessel after deducting space used for crew accommodations, propelling power, and such items as steering gear, chart house, supplies, sails, donkey engine (for pump), and accommodations for master of vessel, as determined by official measurement and expressed in tons of 100 cubic feet.

TABLE 59.—*Number and net tonnage of vessels cleared in foreign trade from the customs districts of San Francisco, Willamette, and Puget Sound, 1895–1910.*[a]

FROM SAN FRANCISCO.

Year ending June 30—	Number of vessels cleared for—				Net tonnage of vessels cleared for—			
	United Kingdom.	China, Japan, Korea, and Philippine Islands.	Other countries.	All countries.	United Kingdom.	China, Japan, Korea, and Philippine Islands.	Other countries.	All countries.
1896	174	40	589	803	328,725	104,639	732,415	1,165,779
1897	161	44	613	818	300,585	111,548	774,485	1,186,618
1898	166	37	564	767	305,375	98,164	716,020	1,119,559
1899	57	72	574	703	99,905	163,741	714,181	977,827
1900	151	119	610	880	273,662	285,882	780,104	1,339,648
1901	137	41	441	619	265,570	107,463	695,521	1,068,554
1902	188	48	404	640	331,503	140,594	708,578	1,180,675
1903	82	49	413	544	150,094	163,216	733,985	1,047,295
1904	77	45	382	504	143,699	167,463	703,642	1,014,804
1905	44	58	370	472	83,232	243,501	690,779	1,017,512
1906	24	28	330	382	48,682	114,810	625,673	789,165
1907	46	31	311	388	91,193	83,424	625,015	799,632
1908	29	40	314	383	59,241	122,316	707,827	889,384
1909	33	36	291	360	64,428	120,390	684,119	868,937
1910	29	22	313	364	60,696	72,622	764,282	897,600
FROM WILLAMETTE (PORTLAND).								
1896	46	12	23	81	69,026	16,952	20,802	106,780
1897	63	15	17	95	98,411	22,563	20,230	141,204
1898	112	16	29	157	192,683	30,750	39,446	262,879
1899	88	13	22	123	151,668	20,905	31,226	203,799
1900	88	19	8	115	157,310	37,997	11,713	207,020
1901	112	32	25	169	199,962	71,056	41,884	312,902
1902	106	27	23	156	180,408	69,784	46,539	296,731
1903	43	38	54	135	81,985	69,527	88,480	239,992
1904	27	44	25	96	51,594	94,727	42,177	188,498
1905	18	46	14	78	34,592	87,964	27,028	149,584
1906	40	53	18	111	77,295	129,681	32,526	239,502
1907	35	57	29	121	71,797	155,136	62,770	289,703
1908	81	40	40	161	161,215	114,340	104,968	380,523
1909	40	25	34	99	82,184	70,411	83,882	236,477
1910	37	29	27	93	78,628	94,890	63,902	237,420
FROM PUGET SOUND.								
1896	23	38	2,070	2,131	43,554	49,604	1,074,527	1,167,685
1897	35	51	2,220	2,306	66,875	76,894	1,013,919	1,157,688
1898	58	50	1,756	1,864	111,916	92,953	978,050	1,182,919
1899	40	56	1,561	1,657	76,430	95,329	943,131	1,114,890
1900	33	81	1,802	1,916	59,571	154,928	959,024	1,173,523
1901	61	77	2,194	2,332	118,411	164,397	1,065,411	1,348,219
1902	78	92	2,400	2,570	152,888	214,957	972,920	1,340,765
1903	47	91	2,054	2,192	105,336	243,615	991,788	1,340,739
1904	32	70	1,951	2,053	97,617	195,506	1,060,403	1,353,526
1905	24	77	1,930	2,031	72,601	247,978	1,115,795	1,436,374
1906	77	68	1,975	2,120	194,203	278,924	1,049,617	1,522,744
1907	40	75	2,161	2,276	124,429	347,608	1,265,795	1,737,832
1908	66	83	2,494	2,643	171,071	322,419	1,574,071	2,067,561
1909	38	56	2,728	2,822	113,796	240,445	1,714,283	2,068,524
1910	36	60	2,538	2,634	119,046	256,856	1,687,250	2,063,152

[a] Compiled from annual reports of the Foreign Commerce and Navigation of the United States. For definition of net tonnage see note [a], p. 80.

TABLE 59.—*Number and net tonnage of vessels cleared in foreign trade from the customs districts of San Francisco, Willamette, and Puget Sound, 1895–1910*—Continued.

TOTAL, FROM THE THREE CUSTOMS DISTRICTS.

Year ending June 30—	Number of vessels cleared for—				Net tonnage of vessels cleared for—			
	United Kingdom.	China, Japan, Korea, and Philippine Islands.	Other countries.	All countries.	United Kingdom.	China, Japan, Korea, and Philippine Islands.	Other countries.	All countries.
1896	243	90	2,682	3,015	441,305	171,195	1,827,744	2,440,244
1897	259	110	2,850	3,219	465,871	211,005	1,808,634	2,485,510
1898	336	103	2,349	2,788	609,974	221,867	1,733,516	2,565,357
1899	185	141	2,157	2,483	328,003	279,975	1,688,538	2,296,516
1900	272	219	2,420	2,911	490,543	478,807	1,750,841	2,720,191
1901	310	150	2,660	3,120	583,943	342,916	1,802,816	2,729,675
1902	372	167	2,827	3,366	664,799	425,335	1,728,037	2,818,171
1903	172	178	2,521	2,871	337,415	476,358	1,814,253	2,628,026
1904	136	159	2,358	2,653	292,910	457,696	1,806,222	2,556,828
1905	86	181	2,314	2,581	190,425	579,443	1,833,602	2,603,470
1906	141	149	2,323	2,613	320,180	523,415	1,707,816	2,551,411
1907	121	163	2,501	2,785	287,419	586,168	1,953,580	2,827,167
1908	176	163	2,848	3,187	391,527	559,075	2,386,866	3,337,468
1909	111	117	3,053	3,281	260,408	431,246	2,482,284	3,173,938
1910	102	111	2,878	3,091	258,370	424,368	2,515,434	3,198,172

TABLE 60.—*Number and net tonnage of vessels cleared from and for voyages between Atlantic and Pacific ports of the United States, via Cape Horn, 1886–1910.*[a]

Year ending June 30—	Cleared from Atlantic ports.			Cleared from Pacific ports.			Total clearances.		
	Number.	Net tons of 100 cubic feet.		Number.	Net tons of 100 cubic feet.		Number.	Net tons of 100 cubic feet.	
		Total.	Average per vessel.		Total.	Average per vessel.		Total.	Average per vessel.
Average:									
1886–1890	50	81,168	1,623	15	24,452	1,630	65	105,620	1,625
1891–1895	58	102,492	1,767	21	38,716	1,844	79	141,208	1,787
1896–1900	32	55,342	1,729	11	22,543	2,049	44	77,885	1,770
1901–1905	24	74,686	3,112	14	46,359	3,311	38	121,045	3,185
1906–1910	20	55,995	2,800	12	32,010	2,668	32	88,005	2,750
1906	27	92,804	3,437	25	62,595	2,504	52	155,399	2,988
1907	35	99,872	2,853	10	31,475	3,148	45	131,347	2,919
1908	20	43,108	2,155	9	24,171	2 686	29	67,279	2,320
1909	6	14,050	2,342	6	16,607	2,768	12	30,657	2,555
1910	11	30,143	2,740	11	25,201	2,291	22	55,344	2,516

[a] Compiled from annual reports of the Foreign Commerce and Navigation of the United States. For definition of net tonnage see note [a], p. 80.

Two of the striking features of Tables 61 and 62 are the decrease in the number of sailing vessels engaged in foreign trade at San Francisco and the increase in the average size of all vessels. During 1906–1910 the sailing vessels leaving this port in foreign trade were scarcely 15 per cent of the number in 1871–1875, and at the same

time the average space for freight and passengers on these vessels increased from 700 to nearly 1,800 tons. Increases in the size of both sail and steam vessels are recorded for Portland. The relatively small average size of vessels and the great number of clearances in foreign trade from Puget Sound ports is caused to a large degree by the frequent coastwise movements to and from British Columbia. Many of the boats in this trade would naturally be much smaller than the ocean steamers.

TABLE 61.—*Average number of sail and steam vessels cleared in foreign trade from the customs districts of San Francisco, Willamette, and Puget Sound, 1871–1910.*[a]

Year ending June 30—	San Francisco.		Willamette (Portland).		Puget Sound.	
	Sail.	Steam.	Sail.	Steam.	Sail.	Steam.
Average:						
1871–1875	482	100	32	20	120	186
1876–1880	503	130	65	17	131	223
1881–1885	621	210	66	14	150	447
1886–1890	524	254	96	26	215	744
1891–1895	507	311	70	31	237	1,306
1896–1900	448	346	94	20	295	1,680
1901–1905	210	346	95	32	352	1,883
1906–1910	72	303	60	57	365	2,134
1906	73	309	63	48	419	1,701
1907	98	290	48	73	347	1,929
1908	79	304	89	72	355	2,288
1909	57	303	52	47	315	2,507
1910	54	310	48	45	387	2,247

[a] Compiled from annual reports of the Foreign Commerce and Navigation of the United States.

TABLE 62.—*Average size of sail and steam vessels cleared in foreign trade from the customs districts of San Francisco, Willamette, and Puget Sound, 1871–1910.*[a]

[In tons of 100 cubic feet net measurement.]

Year ending June 30—	San Francisco.		Willamette (Portland).		Puget Sound.	
	Sail.	Steam.	Sail.	Steam.	Sail.	Steam.
Average:						
1871–1875	746	2,136	595	544	393	385
1876–1880	877	2,198	889	573	375	586
1881–1885	1,006	1,647	918	1,240	570	449
1886–1890	1,116	1,494	1,158	744	791	653
1891–1895	1,190	1,649	1 416	799	1,003	598
1896–1900	1 149	1,859	1 618	1 612	961	521
1901–1905	1,507	2,165	1,660	2,495	937	549
1906–1910	1,736	2,389	1,915	2,840	752	758
1906	1,568	2,184	1,790	2,640	903	673
1907	1,838	2,136	2,004	2,651	807	756
1908	1,620	2,505	1,953	2,871	833	774
1909	1,851	2,520	1,798	3,042	695	738
1910	1,798	2,582	2,044	3,096	515	829

[a] Compiled from annual reports of the Foreign Commerce and Navigation of the United States. For definition of net measurement see note [a], p. 80.

COSTS OF MARKETING.

A rough estimate is made in Table 63 of the principal items of cost in buying wheat and barley from farmers in the Pacific coast region and selling it in England. It will be noted that some of the costs were based upon quantity and some upon value. Freight and warehouse charges depended upon the quantity carried, but insurance rates were based upon the value of the grain.

The items shown in this table must not be regarded as a complete list of the expenses of any one transaction; and, on the other hand, there are transactions which do not involve all the items listed in the table. Large dealers and exporters in the Pacific Northwest frequently if not usually pay salaries to their agents at country shipping points and pay no commission on wheat which these agents buy from farmers. Again, fees for inspection in the State of Washington, which may not be paid on grain purchased by exporters from farmers, are not mentioned in Table 63.

The wide range of cost is due chiefly to differences in rates of freight and marine insurance. Railroad freight charges vary in general according to length of haul, while ocean freights vary with supply and demand as to ships and cargo. Among the costs of marketing not shown in Table 63 are dealers' gross profits, including interest on money invested.

TABLE 63.—*Approximate cost for marketing wheat and barley from country shipping points in the Pacific coast region to England for the year ending June, 1910.*[a]

[Cents per bushel.]

Item.	Wheat from Oregon, Washington, and Idaho.		Barley from California.	
	Low.	High.	Low.	High.
	Cents.	*Cents.*	*Cents.*	*Cents.*
Commission for buying from farmer[b]	0.125	1.000	0.480	0.600
Railroad freight charge	2.000	15.000	2.000	12.000
Fire insurance (if for 60 days)	.125	.200	.035	.045
Weighing			.600	.600
Warehouse charges	1.500	1.500	1.200	1.200
Marine insurance (1.375 to 4.5 per cent; wheat price assumed at 95, barley at 70 cents per bushel)	1.306	4.275	.962	3.15
Ocean freight	13.000	18.000	9.000	16.000
Brokerage for selling in England (0.5 per cent; wheat price assumed at $1.10, barley at 86 cents per bushel)	.550	.550	.430	.430
Total of items specified	18.606	40.525	14.707	34.025

[a] Railroad freight rates from official tariffs; ocean freight rates from Daily Commercial News (San Francisco); other data from reports made by marine insurance agents and grain dealers.

[b] In the case of wheat this item applies to a small part of the trade only. It is reported that in Oregon, Washington, and Idaho most purchases of wheat from farmers are made by agents who are paid salaries and not commissions.

METHODS OF MARKETING.

GRAIN.

THE EXPORT TRADE.

Grain sent to Europe from the Pacific coast is regularly shipped in full cargoes. A single consignment of wheat may contain 100,000 or more bushels and may be worth at the port of shipment from $75,000 to $100,000 or more. Grain bought and shipped in October may not reach its destination until late in February or some time in March. Meanwhile, market conditions may have changed so that the exporter or importer may meet with a loss. These difficulties have probably contributed to the concentration of a large part of the grain-export trade of the Pacific coast in the hands of a few strong firms. These exporters are more or less closely connected with grain dealers located in European markets, and who represent there the men who export from the United States; this relation is in some cases reversed—some Pacific coast exporters are representatives of European firms.

The European representative of the Pacific coast exporter may sell a given lot of wheat before the exporter buys it for shipment or the exporter may buy it first and look for a purchaser afterwards. In either case, it is said, both transactions are usually made within a short time of each other, and the exporter runs less risk of a fall in price than if he held his wheat a longer time before selling it. If he did not sell the wheat until it reached Europe, he would have to wait at least four or five months before he could close the transaction on each cargo.

The Pacific coast exporter, unlike the grain exporters east of the Rocky Mountains, frequently if not usually buys grain direct from farmers. He then manages the shipment to the seaboard and attends to the details of chartering a ship and loading the cargo; in these matters his work is similar to that of exporters at such eastern points as Duluth, Chicago, New York, and Baltimore. The exporter pays the marine insurance and, after the consignment is delivered at its destination, the ocean freight. However, prices quoted in England for cargoes of Pacific coast wheat "to arrive," regularly include ocean freight and marine insurance, so the exporter, in drawing upon the European buyer to obtain payment for the cargo, must deduct in his draft the amount to be paid for ocean freight. The deduction made from the gross invoice value, as illustrated in the sample document on page 89, was £3,937 10s., leaving the net amount due from the English buyer as £22,942 10s. This latter sum was named in the sample draft made upon the importer by the exporter, shown on page 90.

In sales made according to the "Oregon and Washington wheat contract" of the London Corn Trade Association it is stipulated that the grain bought should "average at the time of shipment about equal to the official standard of the Portland (Oreg.) Chamber of Commerce" of the crop.

After the buyer examines the wheat on its arrival in England, if he is not satisfied with the trade, he may appoint an arbitrator and call upon the seller to appoint another, the two having power to choose a third. The board thus chosen decides the matter in controversy. Either party may, and frequently does, exercise his right of appeal to the arbitration committee of the London Corn Trade Association.

Shipments to Europe are frequently made to a port of call. Sail vessels are often chartered to go to Falmouth, Queenstown, or Plymouth, in the British Isles, where orders will be given as to final destination. For steamships the port of call is usually St. Vincent, in the Cape Verde Islands, or Gibraltar.

Of the occasional disasters in the export grain trade over these long routes, three will serve as examples. The British sailing ship *Matterhorn* left Portland on November 26, 1909, and five days later foundered off the mouth of Columbia River, causing the loss of the ship and 61,700 centals of barley. In the same season the German steamer *Utgard* left Portland with a cargo of 132,496 centals of wheat consigned to St. Vincent for orders. On December 16 the vessel was broken in two in the Strait of Magellan and was lost with its cargo. The British ship *Crompton* sailed from Tacoma in the summer of 1910 and reached the Irish coast in safety, but was lost within a few days' sail of its intended destination.

UNITS OF WEIGHT.

In California wheat and barley are quoted locally by the 100 pounds, while in Oregon, Washington, and Idaho wheat is sold by the bushel of 60 pounds and barley often by the cental or by the short ton (2,000 pounds). Freight rates on railroads and river boats in these four States are based on the short ton, and so are charges made by steamships in the coastwise and the trans-Pacific trade, but rates to Europe are quoted by the long ton (2,240 pounds). The price of Pacific coast wheat sold "to arrive," as quoted in England, is based on the quarter of 500 pounds gross weight, including sacks, and the price of barley on quarters of 448 pounds gross.

Wheat from Chile also, when sold subject to contracts of the London Corn Trade Association, is quoted by the quarter of 500 pounds, gross weight. In the trade with Australia, Argentina, and the Atlantic coast of the United States the quarter of wheat is taken as 480 pounds, while the quarter of British Indian wheat is reckoned at 492 pounds net weight.

COOPERATIVE MARKETING BY FARMERS.

In 1874 the members of the State Grange of California undertook to export their own grain. About 20 vessels were loaded by the farmers, but the firm which acted as their agent failed and the farmers are said to have lost heavily. Two years later, in 1876, two or more ships were dispatched with grain to Europe by the Grangers' Business Association of California.[a] In 1881 the Wheat Growers' Association of California held a series of meetings in Grangers Hall, Sacramento. The association was organized about this time for the purpose of collecting statistics relating to crops, stocks of grain, prices, freight rates, and shipping, as well as other matters of importance to the members, but apparently no attempt was made by the organization to make sales.[b]

Twenty years later a freight blockade caused by a strike prevented wheat from being moved to the seaboard and exported. Much of it was piled along river banks awaiting transportation to Port Costa and other seaports. The wheat not being in warehouses, the farmers were unable to secure warehouse certificates for use in obtaining loans. To relieve these conditions a meeting at Sacramento was called by the Sacramento Valley Development Association and the San Joaquin Valley Commercial and Development Association, and was attended by about 200 wheat growers from a dozen or more counties. The Grain Growers' Association of California was thus organized; it investigated the conditions of transportation and marketing, and claimed to have caused better prices to be paid the farmers.[c]

In Oregon, Washington, and Idaho about 200 farmers' cooperative grain warehouses were reported in operation in 1910, some of which had been established about two years. Each warehouse was operated by a separate local organization, but sales were made through a large union which included members in a number of States. This union had one agent in Seattle who sold to exporters, but most of its transactions were made with mills in the United States or with dealers who supplied these mills.

COMMERCIAL PAPERS.

The following set of commercial papers was kindly furnished by a prominent exporter of the Pacific coast. In addition to these papers there may be a negotiable warehouse certificate, a fire insurance policy on the wheat before it is exported, a marine insurance policy, a charter party, and possibly others. The charter party contains the agreement between the masters or owners of the vessel and the

[a] E. F. Carr's The Patrons of Husbandry on the Pacific.
[b] Alta California, September and October, 1881.
[c] Sacramento Record-Union, September, 1901, and August, 1902.

person who hires it. The usual form used for grain shipped from Portland begins somewhat as follows:

PORTLAND, OREG., *September 12, 1910.*

This charter party, this day made and concluded upon between Henry Brown, master and agent, for owners of the ship or vessel called the *Portland* of the measurement of 1,518 tons register, or thereabouts, now lying at the port of Seattle, of the first part, and John Doe, of the second part, etc.

Then follow 19 sections of the contract, below which the contracting parties and their witnesses sign their names. The first section requires the grain to be in sacks and makes specifications as to the condition of the vessel; the rate is also named in this section. Section 9 fixes the dates within which the contract is to be executed, and other sections provide a penalty against the vessel in case of delay in arriving, and against the charterer for delay in loading.

CREDIT STATEMENT.

TACOMA, *July 30, 1909.*

Mr. JOHN JONES, Pullman, Wash., in account with JOHN DOE, Tacoma, Wash.
Contract No. 101, dated June 1, 1909. 111,500 bushels, at 95¢.

51,000 sacks No. 1 Club, weighing 6,690,000 lbs.; net, say 111,500 bushels, at 95¢		$105,925.00
Deductions as per statement, 7,000 bu., at 3¢		210.00
		105,715.00

MEM.: Freight as per bills herewith, $10,597.00.

ACCOUNT WITH FARMER.

JOHN JONES, Pullman, Wash., in account with JOHN DOE, Tacoma, Wash.

To sundry drafts paid		$85,000.00	
To freight from Pullman on 100 cars containing 51,000 sacks wheat weighing 6,728,250 lbs., at 15¾¢		10,597.00	
To State inspection fees on 100 cars		75.00	
To discount on 7,000 bushels smutty wheat at 3¢		210.00	
To check to balance		10,043.00	
By 51,000 sacks No. 1 Club wheat weighing	6,728,250 lbs.		
Less tare, ¾ lb. per sack	38,250 lbs.		
	6,690,000 lbs.		
Say 111,500 bushels, at 95¢			$105,925.00
		105,925.00	105,925.00

E. and O. E.

TACOMA, *July 30, 1909.*

NOTE.—The farmer generally pays warehouse charges at shipping station of 50 cents per ton and some exchange on drafts. "E. and O. E."=errors and omissions excepted.

Invoice.

(John Doe. Shipping, commission, and warehousing.)

Invoice of a cargo of fair average quality White Walla wheat shipped per British ship Arethusa by order and for account and risk of Messrs. Brown, Smith and Co., Liverpool, England.

	£.	s.	d.
51,000 sacks, f. a. q., White Walla wheat, weighing 6,720,000 pounds, gross, say 13,440 quarters (of 500 pounds each), at 40 s	26,880	..	..
Less freight on 3,000 tons, at 26s. 3d	3,937	10	..
	22.942	10	..

E. and O. E.

Tacoma, *July 30, 1909.*

Bill of Lading.

John Doe, San Francisco, Cal.; Portland, Oreg.; Tacoma, Wash.

Richard Roe, Liverpool.

Marks.	Sacks.	Contents.	Pounds.
JJ	51,000	Wheat	6,720,000

Shipped, in good order and condition, by John Doe, of Tacoma, Wash., in and upon the British ship called the *Arethusa*, whereof Nelson is master for this present voyage, and now lying in this port, and bound for Queenstown, Falmouth, or Plymouth for orders to discharge at a safe port in the United Kingdom or on the Continent between Havre and Hamburg, both ports inclusive, fifty-one thousand sacks wheat, being marked and numbered as per margin, and which are to be delivered in the like good order and condition at the port of discharge as above (subject to the London Conference Rules of Affreightment, 1893, as endorsed hereon) unto order, or to his assigns, freight for the said goods payable in cash without discount at the rate of (26/3) twenty-six shillings and three pence sterling per ton of 2,240 lbs. gross weight delivered, if discharged in the United Kingdom, or at Havre, or at Antwerp, or at Dunkirk, or at Hamburg; two shillings and six pence (2/6) sterling per like ton extra, if discharged on the Continent, as above, other than Havre, or Antwerp, or Dunkirk, or Hamburg, with average accustomed and all other conditions as per charter party.

In witness whereof the master or purser of the said ship or vessel hath affirmed to two bills of lading, all of this tenor and date, one of the said bills being accomplished, the other to stand void.

Dated in Tacoma, Wash., this 30th day of July, 1909.

Weight and contents unknown to

(Signed) H. Nelson,
Master.

DRAFT.

£22,942 10s 0d. TACOMA, *30th July, 1909.*

Sixty days after sight of this First of Exchange (second and third unpaid) pay to the order of The Bank of California twenty-two thousand nine hundred and forty-two pounds, ten shillings; value received, and charge the same as advised.

(Signed) JOHN DOE.

To Messrs. BROWN, SMITH AND CO., Liverpool.
Payable in London.

PROFIT AND LOSS ACCOUNT OF A CARGO OF WHEAT SHIPPED AT TACOMA PER ARETHUSA TO UNITED KINGDOM.

To cost of 111,500 bushels No. 1 Club wheat, at 95¢	$105,925.00	
Less discount on 7,000 bushels smutty, at 3¢	210.00	
	105,715.00	
Buying agent's commission, ⅛¢ per bu	139.25	
Wharfage, 3,360 tons, at 50¢	1,680.00	
Cleaning 210 tons smutty, at 50¢	105.00	
Fire insurance, 60 days on $100,000, at 51¢	510.00	
Marine insurance, £23,400, at $4.86=$113,724 at 1¾%	1,990.00	
Selling brokerage, £26,880=$130,636.80 at ½%	653.18	
Balance of profit	708.12	
By proceeds, draft on London at 60 days, £22,942 10s. 0d., at $4.86		$111,500.55
	111,500.55	111,500.55

E. and O. E.
TACOMA, July 30, 1909.
NOTE—

Gross weight wheat bought	pounds..	6,728,250
Gross weight wheat shipped	pounds..	6,720,000
Loss in cleaning 210 tons	pounds..	8,250

HANDLING GRAIN IN SACKS.

Grain exported from the Pacific coast is regularly carried in sacks. It is not considered safe to load a vessel with bulk grain for this long voyage; the cargo might shift and endanger its own safety and that of the ship. Hence one condition of a marine insurance policy and of a charter party is that grain cargoes shall be in sacks. This requirement makes it hard to change the custom of handling the grain crop of the Pacific coast region in sacks from the farm to foreign or domestic mills.

There are some advantages of this method over handling grain in bulk, one of which is that a single lot of grain may easily be kept separate and identified by the marks on the sacks. However, when the grain reaches the warehouse at the seaport it is frequently emptied from the sacks, run through an elevator for the purpose of cleaning or mixing, and is sacked again for shipment.

The grain warehouses require relatively little machinery, compared with elevators, since the sacks may be handled easily by hand trucks. It has been found convenient, however, to make use of conveyors, operated by steam or electricity, for the purpose of stacking the sacks in warehouses and loading them on shipboard.

In loading on ships it is common to use conveyors to carry the sacks to the top of a slide, whence they are allowed to move by gravity into the hold of the vessel. Wheat makes a cargo of sufficient weight to ballast a ship safely, but a full cargo of barley is rather light unless stowed in a careful manner. The loss of the *Matterhorn* (p. 86), with its full cargo of barley, occasioned an inquiry on the part of one or more insurance companies as to safer methods of carrying this grain; and one expert advised that the sacks be "bled;" that is, be caused to leak enough grain to fill in the interstices among the sacks, and thus make a cargo of greater weight per cubic unit than ordinary sacked barley.

ATTEMPTS TO USE ELEVATORS.

Occasionally a car of bulk grain is received at a terminal warehouse. The agent of an exporting firm tells of a bulk consignment received at one of its terminal warehouses, and which was unloaded from the car by means of shovels and wheelbarrows.

Some attempts have been made in the Pacific coast region to establish elevator systems and handle grain in bulk. About 20 or 25 years ago a number of elevators for handling bulk grain are said to have been erected at various railroad stations in Oregon and Washington, and a terminal elevator at Portland. The grain was received in sacks from the farmers, as they were not prepared to haul in bulk; it was emptied at the elevator, hauled in bulk to the seacoast and sacked again when exported. This practice did not continue many seasons. Some of the elevators were dismantled, their machinery being removed to give more room for storing the grain in sacks. The terminal elevator at Portland burned and was never rebuilt.

In 1910 there were elevators at Tacoma and Seattle, so that bulk grain could, if desired, be transferred from cars into ships, and a project was reported for the establishment of a line of elevators for the coastwise trade, some houses being erected at northern ports for handling shipments and at southern California ports for handling receipts.

LIVE STOCK.

CATTLE AND SHEEP IN EARLY DAYS.

The cattle industry was a main support of California for at least a half century prior to 1848. Before the discovery of gold an occasional ship would enter San Francisco Bay and receive a consign-

ment of hides. When once the crowds began to enter the State in the early fifties, however, there were not enough cattle for home consumption and supplies were brought from Texas and even Missouri. It is reported that 60,000 head were driven into California from the East in 1854. The drive from the Missouri River usually occupied several months. A quick trip, as recorded by the Sacramento Union, was made in 1854 by a party of 20 men who brought 400 head of cattle to California from Missouri. They left the Missouri State line on May 1 and reached Sacramento on August 22.

Sheep also were driven to California from regions east of the Sierra Nevada Mountains. Some were brought from New Mexico to southern California to stock the ranches and some came from Mexico. As early as 1852 it was reported by the San Joaquin Republican "that most sheep we have hitherto killed" came from Sonora, N. Mex. An item in the Placerville Herald in 1853 describes the route followed by a party of men who brought 1,800 sheep from New Mexico to ranches near Carson River. The party left Taos, N. Mex., January 29, 1853; on March 16 they reached Fort Laramie, on Platte River; thence they took the sheep over South Pass, encountering snow as they went through the mountains. At Green River the first green pasturage was found. The sheep were taken along Green River, thence along the Humboldt and to the Sink. For the last 150 miles on the way to the Sink the sheep lived on wild sage and other plants. Only 50 were lost on the entire trip.

SALES ON FARM OR RANGE.

The most usual method of buying live stock on the Pacific coast is direct from the stock grower. Frequently the buyer drives his animals from the farm or range to the shipping point, but at times the seller may make this delivery.

One of the principal meat packers in San Diego, Cal., in 1910 had representatives as far away as Arizona, where purchases were made directly from the stock raisers during about one-half of the year; during the rest of the time a supply came from regions within about 50 miles of San Diego, being driven in on foot. Colorado and Texas also contributed to his supply. For shipments from Phoenix to San Diego the stock are usually stopped twice for rest, water, and feed. If shipped over the Southern Pacific line the animals may be fed at Yuma, Ariz., and again at Colton, Cal.; if over the Sante Fe Railway they may be fed at Ashfork, Ariz., or Needles, Cal., and again at Barstow, Cal., or Los Angeles.

A large number of the California cattle are fattened on grass, but some are finished on by-products of the beet-sugar factories. One feeding company is said to bring cattle from its ranch in Utah to be fattened in western California on beet pulp.

One of the important cattle regions of California is the San Joaquin Valley, which contributes to the beef supply of Los Angeles, San Francisco, Portland, Tacoma, Seattle, and other markets. In this valley not only native cattle but feeders, brought from a distance, are prepared for market. During the year ending October 31, 1909, according to the records of the county clerk, 25,000 beef cattle were shipped out of Kern County, which forms part of this valley.

Some of the California stock raisers and meat packers board their cattle on ranches, paying the ranchers to feed them. Cattle are often pastured in valleys in the winter, and, when the grass dries out in late spring, are driven to the mountain pastures, from which snow has but recently melted. In 1910 the movement to the mountains was taking place about the last of May. They may be taken from the mountains for slaughter, or, after another winter in the valleys, they may be returned to the mountains for more pasturage in the spring.

STOCKYARDS.

Of the few public live-stock markets on the Pacific coast one is at San Francisco and another at Portland. The Portland market is at Union Stockyards, which were opened in September, 1909. They are located on a slough of the Columbia River near the mouth of the Willamette and a few miles from the business section of Portland. Stock is received and shipped by water as well as by rail. In June, 1910, the finished yards covered about 20 acres and accommodated about 200 carloads of animals. There was a considerable area adjoining the yards for which the stockyards company was said to have an option to purchase. The unloading platform was built of concrete and extended along the front of about 24 receiving pens.

A considerable number of sales and purchases are reported to be made here through commission men, although stock growers and packers may deal direct with each other. The market here begins about 8 a. m. and is over about 4 p. m.

In addition to serving as a market place the Portland stockyards are used as a feeding station for animals on the way from California to Washington.

Stock is often transferred from these yards to the city proper by barges towed by gasoline launches. A barge may hold two or three carloads of animals.

Beginning with the latter part of June, 1910, two live-stock trains were to be run to the Portland stockyards—one train from Huntington, Oreg., a distance of about 400 miles, the other from California. The train from Huntington was to leave that point Saturday and Tuesday of each week at 8 p. m., and was due to reach the stockyards at 2.30 p. m. on the following day.

TRAILING.

The extension of railroads in the Pacific coast region is gradually reducing the length of the live-stock trails. Where railroad transportation is available it regularly takes the place of trailing.

The exact course followed in trailing stock depends to some extent on the pastures and watering places, and also on the location of cultivated and inclosed lands.

Among the railroad points to which animals are reported to be driven from the ranges of central and southern Oregon are: To the west, Ontario and Huntington; to the north, La Grande, Pendleton, Pilot Rock, Heppner, and Shaniko; to the southeast, Klamath Falls, all of which are in Oregon; and some trails leading to the southwest reach the railroad at Alturas, Cal. Stock brought to shipping points from central Oregon may be driven as far as 100 to 200 miles.

One route followed in bringing cattle from central Oregon to the packing house at Walla Walla was given as follows by a man who rode the trail: Starting from Seneca, in Grant County, the route led nearly due north, past the post offices of Beach Creek and Long Creek, to a crossing of the middle fork of the John Day River; then proceeding past Range to the north fork of the John Day River at Dale, on the southern border of Umatilla County; thence past Ukiah, Pilot Rock, and Pendleton, to the Oregon State line. Thence the course was over the Blue Mountains to Walla Walla. The entire distance was about 200 miles.

Sheep are reported to be trailed sometimes from Arizona, southern Nevada, and Utah into the summer ranges of Idaho; and in the fall they are brought into central California, beginning to arrive in the Sacramento Valley about the last of September.

In Alaska, cattle and sheep shipped from southern ports are often driven as far as 400 miles from the seacoast to an interior point before they are slaughtered.

LOADING CATTLE ON SHIPBOARD.

Some methods used in loading cattle on shipboard were illustrated by a consignment loaded at Seattle in June, 1910, and destined for Alaska. The vessel, a coasting steamer 182 feet long and 36 feet wide, had the upper part of the hold divided into pens, each large enough for 10 or 12 cattle. The animals were brought in railroad cars to the pier, and a temporary runway was made from the car door across the pier and down through the forward hatchway of the steamer; the sides of the runway were high enough to keep the animals from looking over it and becoming frightened at any unusual sight. There were eight carloads, each consisting of about 20 cattle, and usually it required about five minutes to transfer one carload from the train to the pens in the steamer.

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